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ORTHOPEDICS

Reported by F. G. Stuart, M.D.

Congenital Dislocation of the Hip-Joint, An Opportunity for the General Practitioner

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The Problem

"Congenital Dislocation of the Hip-Joint" is not a very common condition in this part of the world, but when it occurs, it is a source of much worry to the parents, to the medical man whose duty it is to attend to the case, and to the patient herself. In childhood it is associated with considerable disability and deformity. In middle-age it is frequently attended by pain in the back and degenerative changes in the hip-joint involved. The condition used to be regarded as an unfortunate accident that occurred before birth; nothing was to be done about it in a hurry. Under anesthetic a "closed reduction" was accomplished if possible, and if not successful an "open reduction" was undertaken. The after-treatment included long periods of incarceration in plaster; final results were at times satisfactory, though rarely gratifying. The longer these cases were followed, through and beyond the adaptive period of youth to the weightier days of middle age, the less attractive the picture became.

A New Viewpoint

Of recent years, a new viewpoint has emerged; now think of these cases as "dysplasias"; in other words the hip-joint consisting of acetabulum and head of the femur which lies in it is not the exact mechanical contrivance that the normal hip ought to be. For one thing, the overhanging of the socket is not quite sufficient to retain the femoral head deeply and snugly embraced. Towards its outer part the roof is sloping and so the head tends to be displaced outwards. This is potential dislocation and in the passage of time may become an actual dislocation, the head of the femur passing upwards and backwards. In all cases the mechanical forces playing on the joint are altered, and the joint as a supporting and protective mechanism becomes steadily less efficient.

The Need for Early Recognition

In the majority of cases, the condition of the joint is not noticed until the child begins to walk, when the characteristic "waddle" makes the

diagnosis obvious. If the conception of "dysplasia" is correct a precious year has been allowed to slip away unused. During this year the forces acting on the hip-joint might have been directed towards improvement instead of towards deterioration. It is now universally accepted that bone is a plastic, "labile" tissue, and, especially in the earliest years, can be moulded by the action of muscles. This brings us then to the present-day aim in connection with the problem of "congenital hip," to mould the bones gradually so that they form a joint which can function correctly. To attain this end, it is imperative that the deformity be recognized at the time of birth, and if not then, as soon afterwards as possible. One is justified in saying that it is the bounden duty of every man who presides at the birth of a child to carry out a simple observation which may arouse in his mind the suspicion of "dysplasia" or dispel it.

The Test

The child should be laid upon its back, hips and knees flexed so that the feet rest upon the table. The knees are then grasped and separated as widely as possible. This gives a rough measure of the degree of abduction possible at the hip-joint. If there is definite asymmetry the range being distinctly less on one side than on the other, the side of lesser abduction is under suspicion. There are other suggestive signs such as widening of the perineum, more numerous skin folds on the inner side of the upper thigh, but these are less trustworthy than the simple observation outlined above.

Principle of Treatment

The fact that abduction is diminished gives the keynote to the treatment. It consists in maintaining Abduction until the affected hip is normal or as nearly normal as possible.

It is nearly twenty years since Putti put forward this thesis, yet appreciation of its importance has developed very slowly. This is mainly due to the fact that the disability has been recognized far too late after the golden opportunity of the first twelve months of life has passed, never to return. This time element was emphasized by Putti so thoroughly and the results of his teaching were so successful in Italy that the mothers frequently made the necessary observations and the diagnosis themselves. What is possible in Italy is surely possible in Canada.

Advantages

If reposition to normal can be brought about without resort to anaesthesia and manipulation the benefits are very obvious.

1. Many potential cases of dislocation are saved from becoming actual.

2. No damage is done to the sensitive femoral head.

3. There is no violent stretching of muscles.

4. There is no need for hospital care.

5. The cost of treatment is very much reduced.

6. The efficiency of the hip-joint throughout life is vastly improved and the onset of osteo-arthritis in the hip or its complementary joint, the lumbar spine, is postponed or entirely avoided.

Method of Treatment

In treatment, Putti employed a wedge-shaped cushion between the lower limbs, and also a pair of hinged splints which admitted of progressive abduction. Since Putti's time variations of the apparatus have been employed. One of the simplest and most attractive of these was shown

at the last meeting of the American Academy Orthopaedic Surgeons. It is known as the Frey splint. It consists essentially of a Kapok cushion with a waterproof covering held in the perineum by a harness of ordinary ticking so as to keep the thighs abducted. This must be worn 24 hours per day for the first year. The great advantage of this apparatus is that there is no restriction of movement at the hip itself except in the direction of abduction. When the child is able to walk it can do so and even run about with the splint in position.

The Moral

Plenty of evidence radiographic and pictorial is now available to indicate that this method of treatment is superior to the older, more forcible methods. The key to the situation, however, is in early recognition. This key is in the custody of every obstetrician. The observation described above is easy to make, occupies but a few seconds of time, and can and ought to be made an essential part of the routine of post-natal inspection of the infant.

S U R G E R Y

Edited by S. S. Peikoff, M.D.

The Syndrome of Acute Renal Insufficiency

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The syndrome of acute renal insufficiency following surgical operation is one familiar to most surgeons. It is one of the tragedies in surgery that has hitherto been associated with a high mortality. It may occur following a variety of conditions, and has been known as, "lower nephron nephrosis," "acute toxic nephrosis," "anoxic nephrosis," "hemoglobin nephrosis."

Acute renal damage with insufficiency is an entity not uncommonly seen following transurethral prostatic resection, intravascular hemolysis associated with transfusion reaction, "crush syndrome," sulfonamide sensitivity, poisons such as carbon tetrachloride, burns, and other toxic conditions in increasing frequency. Apparently a number of factors may operate together to produce renal damage, the predominant one being shock resulting in renal vasoconstriction and renal ischaemia. The renal changes are very similar in all these conditions. Recently it has been recognized that this acute renal insufficiency is tubular in origin.

The purpose of this communication is to present a short review of the pathological picture, clinical course, and recent trend in the treatment of this syndrome.

Pathology

An excellent study of the pathology of this condition was published by Lucké in 1946, who called the condition "lower nephron nephrosis." Other investigators have added to our knowledge during the past few years. The essential feature is tubular destruction. Within the first 24 hours of the onset there is lipid degeneration of the epithelium of Henle's loop, with precipitation of pigment casts in the distal and collecting tubules. There is disagreement as to whether this precipitation causes mechanical obstruction which produces the renal failure. The glomeruli do not appear to suffer directly, although protein material may be seen in the capsular space.

Usually by the fourth or fifth day, necrosis of the epithelium of the tubules has occurred, with infiltration of lymphocytes about the tubules and vessels. At the same time, edema of the interstitial tissues may appear. Rupture of the tubules also occurs frequently. The basement membrane of the tubules usually remains intact and evidence of regeneration as well as of necrosis may be seen.

The actual cause of the damage is not understood, although the similarity of the lesions produced by toxic substances and shock has led us to suggest that the cause of the renal insufficiency is the same in all conditions. It is generally believed that renal ischaemia is the precipitating factor.

Recently Trueta has presented evidence of a double circulation in the kidney, apparently under the control of the autonomic nervous system; and that reflex stimulation of the splanchnic nerves can divert the renal circulation from the cortical glomeruli to the medulla. Working with rabbits, he has presented striking evidence that crushing injuries, rapid hemorrhage, pitressin, and other stimuli could produce visible blanching of the outer two-thirds of the cortex. The importance of the ischaemia to the cortex is obvious, as it may prove to be the common factor producing the renal damage. It should be pointed out that Trueta's work, although excellent, was not too well controlled.

Clinical Course

The clinical course varies with the degree of renal ischaemia and with the management. We shall here refer to the anuria that develops post-operatively.

When a patient fails to pass urine, there is an immediate tendency to "order fluids" in an attempt to stimulate the kidneys and get them to work. Often intravenous therapy is continued too long and too vigorously, and after a few days of this, the patient becomes edematous, develops pulmonary edema, congestive heart failure and dies. The error arises from the failure to recognize the fact that the kidneys are severely damaged and are not able to excrete water no matter how much is perfused through the body. Therefore, all the administered fluids collect in the body; there is redistribution of fluid and electrolytes dependent upon the therapy administered, and the patient is literally drowned. There is also considerable growing evidence that potassium which has been lost from the cells, and cannot be excreted by the anuric kidneys, results in potassium intoxication, with actual alteration of cardiac function.

It has become clear that regeneration of the renal tubules begins by the fifth day and is well advanced by the eighth to twelfth days. If the patient can be tided over this critical period the chances of recovery are good.

The clinical course may be divided into three phases according to Muirhead et al., as follows:

Phase 1 — Shock

This is the phase frequently associated with hypotension or with circulatory failure. In cases due to incompatible blood transfusions it is the time of hemolysis. In operative cases there may be shock or collapse on the operating table which may or may not go unrecognized, or there may be an obscured blood reaction while anaesthetized, or shock may develop in the immediate post-operative period. This phase is usually short as measures are usually quickly taken to relieve the "shock" condition.

Phase 2 — Renal Insufficiency

In this phase, which often insidiously follows phase one, oliguria or anuria and azotemia are the chief manifestations. There may be little or no urine passed for days, paralleled by a rise in blood nonprotein nitrogen, accumulation of sulphates and phosphates, and alteration of blood chloride and sodium. Small amounts of urine may be passed which may contain casts, red blood cells, degradation products of hemoglobin, or myoglobin. Acidosis is a prominent feature as evidenced by a low carbon-dioxide combining power. Moderate hypertension may be noted. The clinical picture varies depending upon the treatment. The patient may remain quite rational, or show evidence of azotemia such as muscular twitchings, convulsions, and coma. The level of the blood nonprotein nitrogen does not seem to influence the outcome, because many patients with high levels recover, whereas many with low levels succumb.

Most patients who die do so during this phase, but the cause of death is not apparent in all cases. Mention should be made of the hepatic necrosis which may occur, this being central in type. The possible lethal effect of accumulated potassium has been mentioned above. Further, many of these cases show pulmonary edema and evidence of heart failure. It has been shown that the death may be often due to "water intoxication," due to excessive fluid therapy. In many instances the cause of death is unknown.

Phase 3 — Diuresis

This diuretic phase corresponds to the time when the kidneys are beginning to recover and are beginning to excrete waste materials. The diuresis usually tends to be copious when once initiated, and considerable salt may be lost during this phase. Subsequently, there occurs a redistribution of intracellular fluid, extracellular fluid, and electrolytes. Usually the specific gravity of the urine remains low for a considerable period of time, but gradually the kidney function returns to normal.

Treatment

It is now believed that man may live from one to three weeks after complete shutdown of renal function. Therefore the present treatment is directed at maintaining body function until such time as the kidneys can recover from their damaged condition.

Many varied artificial procedures for clearing waste products from the body have been devised and used, among which are peritoneal irrigation, artificial kidneys, gastric and intestinal lavage. Most reports that appear in the literature tend to be "favorable." There is no doubt that many of these methods can remove considerable amounts of waste products, but their use is necessarily re-

stricted to institutions which are equipped to handle them. Other attempted treatments are, splanchnic block, spinal anaesthesia, massive intravenous administration of saline or lactate solutions. The procedure of renal capsulotomy, or renal de-capsulation appears to be falling out of favor.

The literature abounds with all these various types of treatment. However, the evidence at the present time indicates that the so-called "conservative" treatment of lower nephron nephrosis offers the best chance of substantially reducing the mortality.

This "conservative" regime has been described by Muirhead, Thorn, and others and consists of well-timed rational physiological replacement of body fluids according to the clinical phase, and maintaining the vital processes until the kidneys recover.

Phase 1—The shock or dehydration is initially treated with whole blood or plasma. Usually this phase is quite short and care must be taken in the timing of the administration of fluids. During this period renal ischaemia is present, and, therefore renal blood flow and renal function are reduced.

Phase 2—This is the phase of renal insufficiency when the urine output is noted to be small or completely absent. In the face of a steadily rising blood nonprotein nitrogen and evidence of azotemia the natural tendency appears to be the administration of large volumes of fluid in order to produce urinary secretion. The realization that the kidneys are damaged and are unable to rid the body of wastes is imperative if the mortality of this condition is to be lowered. The purpose of all treatment is to tide the patient over this critical period until the kidneys recover their function.

A knowledge of basic fluid and electrolyte balance is necessary to accurately and intelligently interpret the progress of the case. It is estimated that there is an insensible loss of approximately 1000-1500 c.c. of water per day from the skin and respiratory tract. In a patient with anuria, this amount can tentatively be assumed to be the quantity of fluid to be replaced, plus all that is lost through vomiting or gastric siphonage. It can be seen that careful and accurate records of the amount of fluid lost should be kept. Treatment then should consist of the administration of only that fluid lost so that the fluid-electrolyte balance is preserved. If salt is given it will accumulate in the extracellular fluid reservoir, thereby increasing the osmotic pressure and leading to cellular dehydration. At the same time, there will continue to be loss of electrolyte-free fluid from the skin and lungs. Obviously, if the patient is sweating heavily, or if fever is present the insensible loss of water is increased, and therefore the fluid replacement should be proportionate.

If no food is taken, catabolic processes in the body will continue, with the breakdown of fat and proteins, resulting in the production of ketone bodies and nitrogenous waste products. Moreover there is good evidence that the potassium ions leave the cells, and because they cannot be excreted by the kidneys, slowly accumulate in the plasma until dangerous or fatal levels are reached.

If 100 gm. of glucose are given daily, it has been shown that ketosis is prevented, and protein breakdown reduced to almost half. At the same time if necessary, the acidosis may be combated in part by the administration of alkali. In the presence of shock or liver damage sodium bicarbonate is preferable to sodium lactate (M/6) because the latter may not be split by the damaged liver.

Since the interstitial fluid (extracellular) and plasma have identical chemical composition except for protein content, it can be seen that frequent estimations of plasma chlorides and plasma sodium levels will give a fairly accurate picture of the state of the electrolytes in the tissues. Thus if these levels drop, sufficient sodium chloride may be given to restore the desired levels. Usually it is found that if only distilled water, plus 100 gm. of glucose to replace the water loss, is given daily the electrolytes in the tissues are kept fairly constant.

The occurrence of edema which may be recognized by an increase in body weight, signs of pulmonary edema, or pitting on pressure should be carefully looked for; and if found, fluid and salt intake should be restricted.

Phase 3—This is the phase of diuresis. If the above conservative routine is followed, spontaneous diuresis usually appears about the second or third week, depending upon the severity of the kidney damage. Once again careful attention must be paid to fluid and electrolyte balance. Often the diuresis may consist of 4000-6000 cc. of urine of low specific gravity with a substantial loss of salt. Therefore, large amounts of salt and water may be required to maintain satisfactory fluid equilibrium. The exact amounts can be estimated by close examination of the patient, and by careful examination of plasma sodium and chloride levels as well as accurate record of fluid loss. Adequate replacement therapy is very important because the patient may develop severe hypochloremia and hyponatremia with dehydration within a very short interval.

In conclusion, it will be seen that with sound physiological and biochemical application of basic fluid and electrolyte knowledge much can be done for those patients who develop this very common syndrome of acute renal insufficiency. Early recognition of the condition with conservatism should appear to substantially lower the mortality.

Summary and Conclusions

1. The syndrome of lower nephron nephrosis is briefly discussed with reference to current theories of etiology, pathology, and clinical course.
2. It is seen that, although artificial methods of removing waste products from the body may be useful, a "conservative" approach should be taken.
3. Treatment is discussed according to the phase of the syndrome. Accurate replacement therapy of only the fluids lost, plus the provision of adequate basal nutrition requirements through the use of glucose is stressed.
4. The tendency to force fluids indiscriminately on these patients is to be deprecated. Sound

physiological and biochemical principles in fluid and electrolyte balance are necessary.

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Acute Non-Specific Mesenteric Lymphadenitis

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Compared to the frequency of its occurrence, acute non-specific mesenteric lymphadenitis receives scant treatment in current student textbooks. An impression, gained from general hospital practice, is that approximately one-third of cases operated upon for "acute appendicitis" prove to be "not acute appendicitis," and one is led to the further impression that within the age group from 2 to 20, acute mesenteric lymphadenitis is nearly as common as acute appendicitis.

In spite of this a review of some current textbooks reveals almost complete neglect of this clinical entity. Price's *Text-Book of the Practice of Medicine* (1947) makes no mention of this condition either in the general section under diseases of lymph glands or in the section devoted to the diagnosis of acute appendicitis. Babcock's *Principles and Practice of Surgery* (1946) devotes one sentence to this subject on page 1,000 and ignores it in the differential diagnosis of acute appendicitis. Romanis and Mitchiner *Text Book of Surgery* (1948) likewise devotes a single sentence to this diagnosis. Thomson and Miles *Manual of Surgery* (1939) does not deal with this condition. Nor are text books for senior students more descriptive. Maingot "Post Graduate Surgery" (1936) devotes no space to acute mesenteric lymphadenitis.

Among current texts the only nearly adequate treatment accorded this subject is in Mitchell & Nelson "Text-book of Paediatrics" (1947) where it is described in three-quarters of a page.

There are several possible reasons for this attitude, but the important one is that the diagnosis of acute non-specific mesenteric lymphadenitis frequently becomes apparent only after a "mistaken" diagnosis of acute appendicitis has led to operation. Often the "mistake" is carried into statistical records on a post-operative diagnosis of "sub-acute appendicitis."

Clinical Picture

A more or less typical case record is as follows: A child age seven wakes at night complaining of abdominal pain, and, within an hour or two—sometimes sooner—vomits. The doctor is called; he finds a rather ill-looking child—although not seriously so. The temperature is 101 3/5° F. and the pulse is 120. The tongue is slightly furred and the pharyngeal mucosa somewhat congested. The child lies with knees drawn up. Abdominal examination reveals active peristaltic sounds on auscultation—and the abdominal musculature moves with respiration. Palpation indicates a resistant rather than rigid abdominal wall and the child does not resent palpation unless deep palpation is practiced. It is significant that this resentment of deep palpation does not occur until the posterior abdominal wall is approached by the palpating fingers, and is present in both lower quadrants but more consistently in the right lower quadrant. It is even more significant of acute mesenteric lymphadenitis if this deep tenderness varies in exact location—from examination to examination. Rectal examination aside from revealing no evidence of a mass is uninformative. Examination of the urine gives normal chemical and microscopic findings. The leucocyte count is 14,500 and 75% of these are polymorphonuclear cells. There is nothing found in examination of the chest to account for the fever and an X-ray of the chest is normal.

At operation there is a small increase in the amount of peritoneal fluid. The visceral peritoneum about the ileo-caecal region shows vasodilation of the capillaries and this is also evident in the peritoneum covering the appendix. There is no Meckel's diverticulum. The lymph nodes between the leaves and at the base of the mesentery of the small bowel—particularly in the distal ileal region—are easily palpable due to size and firmness. They are reddish pink in color and vary

from $\frac{1}{2}$ to 3 cm. in size. The peritoneum covering the lymph nodes shows dilated capillaries—some of which have burst giving pin point areas of subserosal haemorrhage.

This is a case of acute non-specific mesenteric lymphadenitis. The appendix is removed "en passant" and the child makes an uneventful post-operative recovery.

In short, the clinical picture is that of an atypical acute appendicitis. There are, however, in some cases significant points of difference.

Incidence

Acute mesenteric lymphadenitis occurs in either sex, but its age distribution is sharply limited to those under 20. Although cases are met with between 20 and 30 these are so excessively rare that the diagnosis should not be entertained beyond the age of 20.

Pain

The pain is generalized and the child draws a wide circle with its hand, about the umbilicus, to indicate its maximal intensity. Rarely the pain will be localized to the right lower quadrant but not with any assurance and never sharply to a point in the right lower quadrant.

Vomiting

If vomiting occurs in mesenteric lymphadenitis it is usually earlier in onset than in acute appendicitis and frequently is synchronous with the onset of pain. Not infrequently the parent will volunteer the information that the child has had in the preceding two or three years several episodes of vomiting or "bilious attacks" which are attributed to food indiscretion.

Temperature and Pulse

The fever exhibited by the child varies about as much as the fever in acute appendicitis and ranges between normal to 103° F. There is a concomitant rise in pulse rate. It is significant that the pulse in mesenteric lymphadenitis is never slow as is occasionally seen in the early stages of the obstructive type of appendicitis.

Blood Examination

The leucocyte count is almost invariably raised and varies from about ten to eighteen thousand. There is nothing in the early total count nor in the differential count (which shows an increase in polymorphonuclears) to distinguish acute appendicitis.

Tone of Anterior Abdominal Wall

The restricted muscle rigidity of an acute appendicitis and the wider rigidity of a spreading peritonitis from a perforated appendix are never exhibited by the child with mesenteric lymphadenitis. There is, however, a muscular resistance voluntary in type. If the child's attention is diverted the resistance will be felt to disappear. This never occurs with acute appendicitis.

Tenderness

The child usually does not complain of tenderness unless fairly firm palpation is practiced as the palpating fingers approach the posterior abdominal wall. This type of tenderness is frequently present in the left lower quadrant as well as in the right, but not persistently so. At one attempt the child will resent efforts at deep palpation on the left side, while a second attempt a few moments later will be tolerated, only to be succeeded by resentment at a third attempt within a few minutes. Tenderness on deep palpation is more consistently present in the right lower quadrant but points of maximal tenderness may shift an inch or so on successive attempts.

Discussion

The single important condition that must be differentiated from acute mesenteric lymphadenitis is acute suppurative appendicitis. Unfortunately in all cases this is not easy and in many cases is frankly impossible without seeing the appendix at operation. The difficulty is due in part to the age of the patient; in part to the anatomical and pathological proximity of the two conditions.

Children, even at their best, localize neither their pain nor their tenderness with any reliable degree of anatomical accuracy.

Alterations in local muscle tone, tenderness and pain, are the three main props upon which an early diagnosis of acute suppurative appendicitis can be built. The main group of lymph nodes affected in acute mesenteric lymphadenitis lie in such close relationship to the appendix—especially in the smaller peritoneal cavity of a child—that exact differentiation based on the location of pain and tenderness is often impossible. To avoid true muscular rigidity, when diagnosis is in doubt, is to court disaster. Muscular rigidity indicates a comparatively late stage in the spread of inflammation of acute appendicitis; the stage of local peritonitis involving the peritoneal covering of the appendix or adjacent peritoneal layers.

Nor is there any real difference in the mechanism of early pain in the two conditions. In both appendicitis and in acute mesenteric lymphadenitis pain is probably due to stimulation of afferent pain fibres in the adjacent sub-peritoneal layers caused by the oedema and tension of inflammation. The proximity of the lower ileal lymph nodes to the appendix makes accurate distinction based on the nature of pain difficult and in some cases impossible, since the same spinal cord segments are involved in either case.

Course of the Disease

It is safe to say that no child dies of acute mesenteric lymphadenitis. The natural course of the disease is for the abdominal pain and vomiting to diminish after the first 12 to 18 hours and to disappear within 48 or 72 hours. In

typical acute appendicitis there is a more gradual progression of symptoms and signs and these tend to become progressively worse in the first 48 to 72 hours. Thus if a curve (Fig. 1) were drawn to indicate general symptomatology and natural course, the curve of appendicitis would be a progressive rise from zero hour to 72 hours; that of acute mesenteric lymphadenitis a steep rise from zero hour to 18 hours followed by a gradual decline to 72 hours.

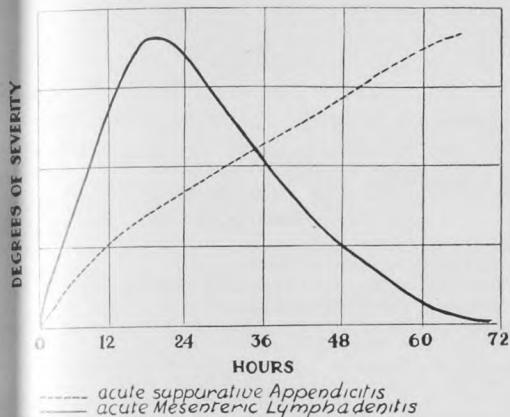


Fig. 1. Natural Course of Acute Suppurative Appendicitis and of Acute Mesenteric Lymphadenitis

In mesenteric lymphadenitis there may be a persistent low fever from 99° F to 101° F lasting for a week or 10 days; but the child feels well during this period of pyrexia and dislikes being kept in bed. All trace of the condition completely subsides within two weeks. Repeated attacks are not infrequent and the interval between the attacks is six months or more.

Aetiology

The aetiology of acute non-specific mesenteric lymphadenitis is not known. Three possible causes can be considered.

(1) For many years, especially in Europe, the condition was thought to be a manifestation of abdominal tuberculosis and many of these patients carried the label of "tuberculous glands." There is no evidence to support this view and some reliable observations to dispute it. Microscopic sections of such glands as have been removed at operation do not show either the organism or the characteristic tubercle of tuberculosis. Guinea pig inoculations of emulsions made from these glands gave negative results for tuberculosis. The von Pirquet test was positive in 22% of an observed series of mesenteric lymphadenitis, whereas the figure was 24% for the healthy elementary school pupils of the same age distribution and from the same neighbourhood (Vuori 1945). Furthermore, the natural course of this illness does not at all parallel the known natural course of proven tuberculous disease affecting lymph nodes.

(2) Many hold that this is a primary disease of lymphoid tissue of unknown and perhaps varying aetiology. The frequency with which this disease is associated with a surge in the general incidence of acute respiratory infections and its frequent association in the one patient with other evidence of disease of lymphoid tissue, such as tonsillitis pharyngitis, tracheobronchitis and enlarged cervical lymph glands, has been noted by many observers (Vuori 1945; Baker and James 1946; Aird 1945; Coleman 1946). Dr. Paul Green in a personal communication has mentioned the possibility that this condition may be an acute abdominal manifestation of Infectious Mononucleosis and that the typical haematological findings do not occur until some time following subsidence of the acute phase. Up to the present there has been no series reported in which blood studies have been continued for a sufficiently long period to either prove or disprove this interesting hypothesis.

(3) Lastly the opinion should be mentioned that this condition arises secondarily from chronic or recurrent infection of the appendix. There is little to support this view other than the observation that occasionally appendectomy has been followed by permanent cessation of this disease in children who had been previously subject to repeated attacks. The relative frequency of this disease in children with and without appendices would make an interesting statistical study.

Pathology

The nodes on microscopic section show no specific pathology beyond that of acute inflammation. The adjacent peritoneal covering shows dilated capillaries with areas of haemorrhage. Neither tubercles nor necrosis are observed in the nodes. Oedema and sinus catarrh is the general finding with some proliferation of the reticulum and connective tissue.

Out of a series of 62 separate cases where bacteriological culture of the glands was performed, 48 were sterile and 14 gave a growth of *B. Coli* (Vuori 1945). *B. Coli* is so frequently found in cultures of "normal" abdominal lymph nodes—especially in the caecal region—that no valid conclusion affecting the aetiology of acute mesenteric lymphadenitis can be drawn from this observation.

Treatment

There is a distinct cleavage in opinion respecting treatment.

The majority holds the view that acute mesenteric adenitis is a manifestation of a diffuse lymphoid tissue disease and believes that treatment should be symptomatic and certainly non-operative (Aird 1945; Baker and James 1946; Coleman 1946).

On the other hand the minority opinion is that the appendix is the source of infection of the mesenteric lymph glands, and that the logical

treatment is appendectomy (Vuori 1945; Reader 1945; Steele 1945).

From the practical point of view the cases will fall into two main groups.

Group I. Those patients in whom the diagnosis of acute mesenteric lymphadenitis can be made with complete confidence. Perhaps this is better stated by saying, those in whom acute suppurative appendicitis can be ruled out with absolute assurance. These do not demand operation.

Group II. Those in whom (while acute mesenteric lymphadenitis is suspected), acute suppurative appendicitis can not be absolutely ruled out without actually examining the appendix at operation.

The physician's experience will in time tend to increase the proportion of cases that fall into the first group with a consequent diminution of cases coming to operation. But it is strongly urged that one should, in this instance at least, be forthright about one's doubts. "It would seem to be the better policy to recommend operation whenever the diagnosis is in doubt; since the danger of operation in mesenteric adenitis is infinitely less than the danger of rupture in an inflamed appendix" (Mitchell and Nelson 1947).

It should be added that in all doubtful cases the possibility of an acute respiratory infection as a possible cause of the abdominal symptoms, or as an associated condition be ruled out before operation is advised.

In order that a more accurate statistical record be available as to the true frequency of this clinical

entity, all cases that come to operation in which the appendix is not frankly inflamed and in which there is clear evidence of enlarged inflamed mesenteric lymph nodes, should be put down in hospital records as acute non specific Mesenteric Lymphadenitis and not as "Subacute Appendicitis."

Summary

(1) Acute non specific Mesenteric Lymphadenitis is a definite clinical entity producing symptoms that sometimes mimic acute appendicitis.

(2) Its natural course leads invariably to resolution with subsidence of symptoms.

(3) Aetiology is unknown.

(4) Treatment is conservative when a definite diagnosis can be made; operative when doubt exists as to the possibility of acute appendicitis being the responsible factor.

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General Practitioners

N. H. S.

British Medical Journal, Nov. 13, 1948

No one expected that such a vast scheme as that outlined in the National Health Service Act of 1946 would begin in a way that would please everybody—least of all those upon whom the main burden of the work falls, the medical men and women of this country. The situation is still too confused to give anything like a clear picture of what is happening, but perhaps the most noteworthy fact is the eagerness with which the public has sought to take advantage of a service which, in effect, guarantees the supply, free of direct charge, of everything from wigs to iron lungs. There has been an overwhelming demand for spectacles and dentures, and a run on the chemist shops so fast at times as almost to exhaust the supplies of certain pharmaceutical products. Presumably in time the novelty will wear off and the demand for such things as spectacles will decrease as the numbers of those apparently needing them diminish. This rush of the public for remedies and appliances has

put an acute strain upon the medical profession, especially those in general practice. Evidence comes in from all over the country that doctors' surgeries are crowded out, and the doctors themselves deplore that this heavy pressure of work has made it at times impossible for them to give their patients adequate care and attention. If the demand for the doctor's time continues at the present level we can foresee that in the event of an epidemic in the winter the life of the general practitioner in particular will become intolerable. The fact that there has been this huge demand for remedies, appliances, and medical advice must indeed, be held to indicate that the economic consequences of ill health discouraged many from seeking assistance before July of this year, although the Minister of Health himself has felt obliged to urge the public to use the new Service with prudence and discretion. It would seem that the idea of getting something apparently for nothing has led some members of the public cheerfully to act in an irresponsible way and to disregard

cost which the country as a whole will eventually have to meet. For the first three months of the Service the national bill for eye-testing and spectacles was £981,951; for drugs, £1,905,447; and for dentists (including dentures), £1,232,057; these figures do not include the cost of treatment and appliances provided through the hospital service.

If medical men and women are to continue to give of their best the country at large must act in a more responsible manner and not create circumstances which will exhaust the profession and incidentally discourage those who may be contemplating taking up Medicine as a career. Although no exact figures can yet be given, it seems that a large proportion of those who might well have been expected to pay direct for their medical treatment have, in fact, asked to be cared for under the National Health Service scheme. There has been a much sharper fall in private practice, specialist and general, than was expected by the profession. This is probably a reflection of the hard economic times in which we live, in conditions which fall with particular severity on the professional classes.

Our correspondence columns show that general practitioners from all parts of the country are critical of many aspects of the Service and are especially apprehensive about their economic position. It is not yet possible to assess the volume of discontent or to measure the extent of the economic distress. The Secretary of the B.M.A., in a letter to all practitioners (published in the Supplement of Oct. 23), gave a careful analysis of those factors which enter into the general practitioner's income, and recorded the fact that the total available income for general practitioners is now in the region of £45,000,000, as against £28,000,-000 that was earned in 1938. In an industrial country such as Britain the majority of general practitioners will receive the greater part of their income from what were formerly described as "panel patients." So, given the number which any one doctor may have on his list, it would seem fair to assume that the general practitioner in the big industrial area should be earning not less than he did before July of this year; but he is having to work very much harder for it, and in conditions which he deplores as unsuitable for the practice of good medicine. The position of general practitioners in rural and semi-rural areas is, however, different, although it will not be possible accurately to assess their economic position until mileage and special inducement moneys have been paid out. Typographical factors alone make it quite impossible for doctors in this type of practice to secure an equivalent income if all those in their district decide to take advantage of the National Health Service. The economic position of medical men and women in such areas is causing concern, and

is a matter which the B.M.A. is taking up with a full sense of the urgency of the problem. It is imperative that men in established practices with families to educate and all the other numerous commitments which a doctor has to enter into should not suffer, and we believe, too, that public opinion fully informed of the situation would forcibly assert itself against economic injustice even though this may have been endured by a relatively small percentage of practising doctors. The Remuneration Sub-committee of the Insurance Acts Committee had before it on Oct. 28 an amount of evidence in which it is to assert the economic case of the medical profession. This can be asserted with all the more force in that the medical profession in May of this year decided to do its best to make the National Health Service a success. This it has done at the cost of much time and labour, and the country's sense of fair play, we may be sure, will be behind the medical profession's attempt to secure equitable treatment.

Among the points that have come out in our correspondence columns are the proposals that the capitation fee should be increased and fixed, that separate funds should be established for mileage and basic salary, and that there should be a reduction in the numbers of persons any one practitioner should have on his list. Another point is that the maximum of £400,000 for special inducement payments should be reconsidered. It is well to recall that the Government gave general approval to the Spens Report on the Remuneration of General Practitioners. In terms of the 1939 value of money, it may be remembered, the Spens Report recommended that between the ages of 40 and 50 approximately 50% of general practitioners should receive net incomes of £1,300 a year or over, that 75% should receive net incomes over £1,000 a year, that approximately 25% should receive net incomes of £1,600, that less than 10% should receive a net income of £2,000, and that it should be possible for a small proportion to receive net incomes of at least £2,500. These figures, it may be emphasized, are net figures and in terms of the 1939 value of money. The medical profession is at the moment doing its job in extremely difficult circumstances, and it is up to the Government to meet promptly the causes of discontent which now prevail.

Memorandum for the General Council

Extracts from the Supplement to the British Medical Journal, Saturday, November 27, 1948, taken from the Report of the Secretary, Dr. Chas. Hill, dealing with the New Health Service.

The defects of the Service are now becoming apparent. In general practice, with which this

*Spens was Chairman of a committee which made an exhaustive inquiry into the economies of national health insurance and recommended a basis of remuneration applicable both to national health insurance and the new national health service.

report deals, evidence is accumulating that the burden of work, particularly paper work, has greatly increased; that in many cases income has gone down; that private practice is much less than was anticipated and in many areas has virtually disappeared; that there are doubts abroad whether the *Spens Committee's recommendations are being fully applied; that the basic salary arrangements are being resented by some and disliked by many.

The ratio of visits to consultations is tending to rise and multiple consultations (mother comes not alone but with a complete family!) are becoming more frequent. While it is possible that some of this increase is temporary, arising out of the desire to use the service merely because it is free, there is good reason to believe that much of it has come to stay. At the present rate of work, practitioners with less than the maximum number of permitted patients are finding themselves more than fully occupied. Inevitably the question arises in the minds of some, should a reduction in the permitted maximum be sought on the ground that such is the amount of work involved that the care of 4,000 persons cannot be undertaken without risk to health and so to efficiency.

It was perhaps inevitable that there should be growing pains in a new service of such immensity. The pains are worse than we anticipated and the General Medical Services Committee will not be satisfied until general practitioners in all areas, urban and rural, are enjoying a square deal under the new service.

One element in the increased paper work is, of course, certification.

The basic salary problem is agitating the minds of many.

In the same Journal, under the heading "Heard at Headquarters," is the following paragraph:

Stories of heavy increases in the volume of work are heard on every side. Some people at the beginning were rather sceptical about it. How was it possible for the mere passing of an Act of Parliament to increase the incidence of sickness? But that view overlooked the resilience—is that the word?—of human nature. It was perhaps not foreseen that many people would make a visit to the surgery a weekly habit, perhaps undertaken on their way to the cinema. Then there are the hosts of patients who, having had their immediate ills attended to, say, "While I'm here, Doctor, will you . . .?" The most useful medical tool, said one member of the I.A.C. at its recent meeting, is now a ball-pointed pen. The most important person in the practice is the young lady who steers patients between the waiting-room and the consulting-room. This member said that it was no longer a question at a medical examination as between the shirt on and the shirt off; it was a question of the overcoat on or the overcoat off. The ordinary

cold has become an occasion for a visit, a fever, cold for a night call. This is a new complication of things, and, multiplied by 19,000 odd practices pretty serious.

Master Minds

Editorial Appearing in British Medical Journal
January 1, 1949

Mr. Fred Messer, Labour M.P. for Tottenham, holds the responsible position of chairman of the Central Health Service Council. He is also chairman of the North-West Metropolitan Regional Hospital Board. He has earned these positions on his reputation as a highly able administrator with a special interest in and knowledge of hospital and medical services. But according to a recent report in the "Hendon Times" it would appear that Mr. Messer allowed himself to adopt a highly partisan attitude to medical men and the work they do. This was at a meeting of the North-West Branch of the Socialist Medical Association under the chairmanship of Dr. S. Leff, medical officer of health for Willesden. Mr. Messer is reported to have said this: "In the days before the new health service the people were only allowed to be ill at certain times during the day—the times set down on the brass plate in front of the doctor's doors." What kind of confidence can the medical profession have in the chairman of the Central Health Service Council if he makes such ill-judged, inaccurate, and unjust remarks—remarks directed at men and women who after a hard day's work have to be ready to get up at any time of the night in response to a call for help? "For too long," Mr. Messer goes on, "the needs of the people have been subservient to the needs and training of the doctor. What nonsense this is! Mr. Messer again goes on: "Now for the first time the health service as a whole will have a master mind behind it." Does he mean the mind of the chairman of the Central Health Services Council, or the unco-ordinated mind of an endless series of Ministers of Health? The medical profession itself has always been in advance of the Government in pressing for improved organization and integration in medical services, and does not underrate the value of the administrator or deny the need for administration so long as it is made subservient to the need of the doctor to give to his patients in the most efficient manner the knowledge and experience wrung from the stubborn nature by the master minds of medicine? Our new administrators have yet to learn the lesson of humility, the humility of the man who mind the machine created by men who understand how it works.

Note: There are more than a few people in Canada outside the medical profession who would dearly love to push us into State Medicine and "Master Mind" the business for us.

T. C.

MEDICINE

Jaundice—The Diagnostic Approach

P. T. Green, M.D.

The prime responsibility of the internist is diagnosis. Once an accurate diagnosis has been made treatment tends to follow fairly well-defined channels. In order to arrive at his diagnosis the physician has at his disposal three sets of tools:

1. The history as obtained from patient and relative.

2. The physical examination of the patient.

3. Laboratory aids.

Perfection here would be an accurate definition of the disease in terms of causes, disturbance of function, and disturbance of structure (viz. etiological, physiological and anatomical). Unfortunately such perfection is generally not attainable and therefore the next best must satisfy. In jaundice the next best consists in deciding whether or not the case in point fits best into jaundice associated with; 1, hemolytic disease; 2, biliary tract obstruction, or 3, hepatocellular damage, (or, if you prefer), 1, hematological; 2, surgical, and 3, medical jaundice because more accurate assessment and treatment of the disease is done by one of those three departments.

It should not be necessary to point out that some cases fall into more than one category—for example 70% of patients with familial spherocytic anemia develop gall stones and could therefore have obstructive as well as hemolytic jaundice.

I propose to discuss briefly, some of the points of differential value in the history, examination and laboratory.

I. History

As in every case, a complete history must be obtained. There are certain features of the history that might bear closer scrutiny. The family history may be suggestive—particularly in the hemolytic familial anemias. It sometimes is surprising how ignorant patients may be of their family history, and it may take some close questioning to discover that Aunt Sarah's operation was a splenectomy, and so was Uncle Ezra's.

Exposure to infectious hepatitis might also be obtained, but generally it is not. Or history of exposure to potential liver poisons such as carbon tetrachloride, or phosphorus. It may also be of some considerable importance to know whether or not the patient received blood, or plasma, or intravenous arsphenamine, or injections of any kind within the preceding three months.

The past history may also help—particularly a past history of jaundice; gall bladder disease; recent gall bladder surgery. Preceding attacks of jaundice might lead one to think of intermittent obstruction, or exacerbations of an hemolytic

anemia, but infectious hepatitis may also run a relapsing course.

The sex and age of the patient is of help in a general way, because with each age group the probability points to one or another main cause of jaundice—the neonatal period with its physiological jaundice, hemolytic anemias, congenital biliary malformations; infectious hepatitis in adolescents and young adults; gall stones in middle age, and malignancy in advanced age.

A history of alcoholism is not of much absolute help, because many alcoholics will deny it, and most alcoholics do not develop liver disease.

The mode of onset is noted. Onset with rigors and high fever suggests common duct obstruction by a stone. Infectious hepatitis may begin with chilliness, but true rigors are uncommon, and fever is generally not high. Homologous serum jaundice tends to run an afebrile course.

Loss of weight may be an important point. Rapid recent weight loss suggests malignancy, particularly of the pancreas. After the onset of jaundice in hepatitis, weight can be lost rapidly. Hepatoma may be associated with great weight loss. In cirrhosis of the liver and in benign obstruction, weight loss is generally more gradual. Metastatic malignancy in the liver may not be associated with much weight loss, although it usually is.

Prodromal symptoms are also suggestive. Cholecystic indigestion was found in 85% of patients with gall stone obstruction, but it was also found in 30% of jaundices not associated with stone. A typical history of biliary colic is one demanding considerable attention, but it is not diagnostic, as it can occur in as high as 25% of cases of hepatocellular jaundice of sudden onset. It has been said that all common duct stones have pain at one time or another; on the other hand in one series only 40% of common duct stones had colic, so the mean probably lies in between. The pain in hepatitis is often epigastric, and is a rather constant, dull, aching pain. Carcinoma of the pancreas is not the painless disease it was formerly said to be, and in most cases pain is the presenting symptom. The pain is often described vaguely by the patient, and these cases may be considered to be "functional" in the early stages; but they generally show considerable weight loss, a warning point. Back pain may be an outstanding feature here, and they may pass through the hands of the orthopedic surgeon. Some of these patients find that they have difficulty sleeping at night and some find that placing a pillow in the small of their back gives them relief.

The relationship between the pain and the onset of jaundice is usually not so helpful, as jaundice

from any cause may precede, accompany or follow the pain. Painless jaundice too, is often a pit for the unwary, and should not be given too much weight in differential diagnosis. Pruritus is of no differential help.

The color of the stools and urine should be asked about. In hemolytic anemias the stools are always colored and generally deeply so. In obstructive jaundice light colored stools are encountered often, and also they are seen for a short period of time usually, in hepatocellular disease. However, light colored stools would weigh strongly against hemolytic jaundice. Dark colored urine may occur in any of the forms of jaundice. In infectious hepatitis the urine turns very dark before the patient is jaundiced. As a rule this is not so true in obstructive jaundice, where the dark urine usually accompanies or follows the appearance of clinical jaundice. In hemolytic disease the urine may be quite dark in color too, from the pigment other than bilirubin.

2. Physical Examination

During the course of a complete physical examination there are certain features which bear closer scrutiny. The size of the liver should be noted. Enlargement of the liver as so frequently given in histories as a distance of the liver edge below the costal level can be misleading if it is not noted where the upper border of the liver appeared to be on percussion. Particularly in older people with emphysema the general level of the liver may be lower than usual. The consistency of the liver is also an important factor in whether or not it is palpable. Occasionally one encounters a very large liver at post mortem, that was not palpated during life because it was too soft to be appreciated by the examining hand through the abdominal wall. In such cases percussion of the abdomen may suggest that this enlargement is present even though the liver is not felt.

Moderate enlargement of the liver may be found in both hepatocellular and obstructive jaundice and as well in hemolytic. A very large liver, however, is suggestive of hepatocellular jaundice, although it is occasionally encountered in carcinoma of the pancreas. A large, hard, nodular liver is usually associated with carcinomatosis.

Ascites is very suggestive of hepatocellular liver disease, as is the evidence of a collateral venous circulation such as oesophageal varices; hemorrhoids, and abdominal varicosities which tend to be closer to the midline than are those associated with obstruction of the inferior vena cava, which tend to be more lateral. In over 90% of cases where ascites or venous obstruction is found with jaundice, hepatocellular liver disease is present, and in 75% of these the disease is cirrhosis.

Spider angiomas should be sought in the skin. These consist of a pinhead red centre, which is

often pulsatile, and from which radiate fine thread-like vessels, giving it a general spidery appearance. They may become much larger than head size, and one may feel them pulsate. They occur in the area drained by the superior vena cava; rarely are they seen on the lower extremities. They must not be confused with purpuric spots, De Morgan's spots (the common red angiomas in older people) or with dilated venules about the nose or diaphragmatic attachments. While these spider angiomas are seen in normal people, pregnancy and in diseases other than liver disease, they are rarely present in any number there. The finding of these lesions is very strongly suggestive of parenchymatous liver disease.

Other findings which are suggestive of parenchymatous liver disease are palmar erythema ("liver palms"), gynecomastia, testicular atrophy, loss of hair from legs and sternum, and edema usually over the sacrum in bed patients. Strongly suggestive of obstructive jaundice is the finding of a palpable gall bladder; but not infallible.

There is a characteristic odor to the breath in severe liver disease—fetor hepaticus—variously described as mousy, or stale biscuit odor.

Splenomegaly is also very strongly suggestive of parenchymatous liver disease. Signs of value are bradycardia, fever, and hepatic tenderness; tenderness is more often associated with sudden onset of hepatic enlargement from some cause.

3. Laboratory Aids

Dissatisfaction with liver function tests is frequently expressed by physicians. The mere fact that there is such a large number of such tests would indicate that it is difficult to select a few that are satisfactory. However, to swing to the other cynical extreme and to conclude that all tests are valueless is to overlook valuable help. It must be remembered that the liver has many functions, and tests done measure only one particular function. There may be great difference in the degree to which various liver functions are affected. It must also be recalled that the liver has a great reserve capacity and therefore must be severely damaged before it shows evidence of failure to function. If laboratory data be considered as part of the physical examination and weighed as such by the physician the results will fall into proper perspective.

As a rule the hemolytic anemias are not much trouble in the differential diagnosis of jaundice. As a rule these patients are much more anemic than they are jaundiced. However, an occasional case occurs in which this is not so. If one looks for evidence of increased blood destruction as evidenced by increased excretion of urobilinogen in the stool and urine; and evidence of increased blood formation, particularly in

reticulocytes, most cases of these rare diseases which come under the heading of hemolytic disease will be found.

This leaves hepatocellular and obstructive jaundice to differentiate.

(a) Tests not directly concerned with liver function.

These include such things as barium series, which may be indicated if one suspected upper intestinal tract malignancy, or wished to demonstrate esophageal varices; and other general ancillary procedures. It should be mentioned that gall bladder visualization is of little value as the gall bladder will fail to visualize in 80% of cases of jaundice from any cause.

(b) Liver tests depending on secretory power.

The ability of the liver to secrete bilirubin, bromsulfaphthalein; bengal red; alkaline phosphatase and possibly cholesterol can be used. In jaundice, however, there is obviously impairment of this secretory function and therefore the dye excretions usually give little information of value in the presence of jaundice, although they are very useful in its absence. Alkaline phosphatase tends to be higher in obstructive than in hepatocellular jaundice, and values over 30 King-Armstrong units are suggestive of obstructive jaundice. However, there is considerable overlapping. Cholesterol (total) tends to rise in obstructive and fall in hepatocellular jaundice, but the normal range is so great that unless one knew what was normal for the case in point before it would be impossible to know whether the cholesterol had risen or fallen.

(c) Tests that depend on the metabolic function of the liver.

The galactose tolerance test is a good one to use here. It is usually affected in the presence of hepatocellular disease, and rarely is in obstructive jaundice.

The hippuric acid test is not a good test.

Serum albumin tends to fall further in hepatocellular jaundice, and globulin tends to rise, so fractional proteins may be helpful.

In obstructive jaundice the percentage of cholesterol that is in ester form is normal whereas in hepatocellular jaundice it falls.

Prothrombin % may be low in both obstructive and parenchymatous jaundice, but within 8 hours after parenteral vitamin K it rises considerably in obstructive jaundice, and little if at all in hepatocellular.

(d) Measurement of Jaundice.

The icterus index is the simplest method, but not specific. Quantitative Van Den Bergh gives more specific measurement of serum bilirubin, and is of some value in determining whether the pigment present is largely newly formed pigment that has not passed into the liver cells, or whether

it is recirculating pigment. The indirect reaction is increased in hemolytic anemias especially, but this reaction is also seen in familial nonhemolytic jaundice, and also in those cases where a mild icterus with no evidence of impaired liver function persists after increased hepatitis. The direct reaction is increased in both obstructive and hepatocellular jaundice.

Measurement of urobilinogen in the urine measures two things: it means that bile pigment is reaching the gut, and it also means that the liver is not able to handle all that there is in the blood, and so it spills over into the urine. Absence of urobilinogen is seen in both obstructive and hepatocellular disease, but usually reappears after a short time in hepatocellular disease.

Bile pigment is characteristically absent in hemolytic disease but may be present in obstruction on hepatitis. When bile pigment is present albumin usually is too.

(e) Nonspecific Tests

There are a large number of proposed flocculation and turbidity tests which are not specific liver tests but depend on changes in blood proteins. They are quite valuable in jaundice. The ones commonly used are:

Cephalin-cholesterol flocculation: incidentally the blood should not be exposed to sunlight and should not be more than six hours old for this test. It is generally strongly positive in hepatocellular disease and negative or weakly positive in obstructive jaundice.

Thymol turbidity: is strongly positive in almost all cases of infectious hepatitis; is positive in the majority of cirrhosis, and is not very strongly positive in toxic hepatitis and homologous serum jaundice. It is negative in obstructive jaundice.

Thymol Flocculation: is strongly positive in infectious hepatitis and liver cirrhosis.

The thymols appear to be positive in many diseases that are followed by immunity (measles, infectious mononucleosis, etc.).

Needle Biopsy of the Liver

This has been suggested as a direct method of determining the structural changes that have occurred in the liver and hence deducing the underlying cause. It is not without its dangers, is not infallible and should probably be reserved for special cases or for study purposes.

Finally it should be noted that in obstruction of some duration damage to the liver cells occurs and therefore one would expect to find evidence of this damage in the laboratory tests.

Course

Finally, the course of the disease may clarify the situation, and in puzzling cases it is probably wise to wait a while and see what is going to develop. This does not mean sitting back, with

folded hands, but means that the physician re-examines the patient daily, and carries out any procedure which he feels may give him the answer. It is wise, at times, to delay, but it takes greater wisdom to know when the delay is long enough.

Now that some of the tests available have been pointed out, the situation probably appears to be more confused than ever. When faced with such a battery, which ones should be selected? How are they to be interpreted? The normals have purposely been omitted because they vary with the laboratory and the particular technique used there, and so it is necessary to find out what is considered normal in your own hospital.

A series of tests that we have found useful is:

Total and Fraction protein; quantitative Van den Bergh, CCF, thymol turbidity and thymol flocculation. These can all be done on one Keitel tube of blood. In addition, we have, to fall back on, urine urobilinogen, cholesterols, phosphatase, and we would like to do the galactose tolerance test. However, if the results of the simple series already done confirm our impression clinically, it may not be necessary to do the others. We feel that this series will at once pick out infectious hepatitis, and most of the cirrhosis. If completely negative it strongly favors obstructive jaundice. If, in the presence of a negative series of tests given above, we also found a normal galactose tolerance test we would feel quite assured that we were dealing with obstructive jaundice, assuming that the clinical picture fitted. However, if this test showed impairment, we might wonder about homologous serum jaundice, or toxic jaundice and look further.

Most clinicians will say that it is unnecessary to do any test because they can make the diagnosis clinically. With this we agree. However, it is the persistent case of jaundice that is most often the puzzling one, and it is notorious that persistent jaundice from any cause may make liver tests difficult to interpret. Perhaps an example might clarify our stand on routine use of simple series of tests:

The patient is a male, 32 years of age, who has always been well. One week ago he had a rather abrupt onset of malaise, chilliness, and loss of appetite. He went to bed, and was awakened during the night by a sense of fulness and aching in his epigastrium. This persisted even after he had something to eat. In the morning he vomited up the food he had eaten during the night. For the next two days he was able to work, but this aching persisted in his epigastrium and seemed to be getting worse. He consulted a physician who told him he had "gastritis" and sent him to bed with some powders. These did not relieve his distress. He remained in bed for two days, feeling much the same, and noticed that his urine was

very dark in color. Two days later his eyes were noticed that his eyes were yellow.

On examination one finds obvious jaundice, some palpable posterior cervical lymph nodes, a tender liver palpable just beneath the right margin. The patient is assured that he has no disease from which he will recover, and is put on a dietary regime.

However, one month later the man is still jaundiced, and the physician begins to wonder whether his diagnosis of infectious hepatitis was correct. Function tests now might be difficult to interpret, and if his jaundice persists for another month, what is going to be done? If the series had been done at first, and the CCF was XXXX, the Thymol Turbidity 15 units and the Thymol Flocculation 0, then this would have been strong confirmation of the clinical impression. If the "profile" had been CCF XX, Thymol Turbidity 4 units, Thymol Flocculation 0, then this would have been strongly against a diagnosis of infectious hepatitis, and would call for a careful review of the situation. It is for the unusual rather than the usual case that a previous series of such tests is useful.

One particular group of jaundice is worth special mention, and that is the homologous serum jaundices and toxic jaundices. Homologous serum jaundice appears on the average about 90 days after the patient has received parenteral injections, particularly pooled plasma. This may have been given as a supportive measure in surgery, for example in gall bladder surgery. When jaundice appears a few months later it is reasonable to suspect the presence of common duct stone or of obstructive jaundice. Laparotomy in these patients may be a very serious thing and may, if performed, result in the death of the patient. The specific tests of "liver function" may be completely normal with obstructive jaundice. Therefore in the presence of a history of previous injections of or surgery with possible parenteral therapy which the patient may not recall, and which occurred in the preceding three months period it is best to be very cautious before exploration is undertaken.

Case Report: Aplastic Anemia

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The case to be described here is one of aplastic anemia and is presented to call attention to the possible hazards through the use of various chemicals on our farms.

Case History

The patient, a 58-year-old farmer, was admitted to hospital in Calgary on the 8th of September 1948. In the spring of 1947 he had begun to complain of some weakness which improved during the summer but became worse again in the fall. The

ition made it difficult for him to carry out his winter's work. There was a slight improvement but in the spring his symptoms again became worse. He suffered from a severe supra-orbital headache, particularly severe when he was up and about, riding horses, etc., and which was relieved only by rest. For this headache he received treatment elsewhere for a possible sinus condition. Shortly after this he began to have frequent nosebleeds and later some bleeding from the mouth and, on one occasion, the vomiting of blood. Liver injections, folic acid tablets and iron were administered in his local hospital with no improvement in his blood and a progression of the anemia. After several blood transfusions which gave signs of improvement he was referred to the Cancer Clinic in Calgary.

Examination

The patient was a middle-aged man exhibiting extreme pallor, weak and unable to stand after the long trip. There was a small bleeding area on one cheek. There were petechiae in the mouth and over several areas of the neck and also bruises noted elsewhere on the body. There was nothing of significance in the heart or lungs. Blood pressure was 150/90. The spleen and liver were not palpable and the abdomen was not otherwise abnormal. There were moderately enlarged glands in the axilla and the inguinal regions.

The urine showed a faint trace of albumin but was normal in other respects. The red cell count was reported as 950,000; the hemoglobin under 20% and the white cell count as 1,900. In the blood smear the red cells were of fairly normal appearance—41% polymorphs and 59% small lymphocytes. There was no free HCl in the stomach. The stool was slightly positive for blood. The platelet count was reported as 8,550. A sternal puncture was done and the white cell count was 50. In the smear, cells of any type were difficult to find. There was only a small number (2%) of nucleated red cells (normoblasts). The white cells found were mature in appearance and about the same proportion as found in the blood. In the chest film there were some chronic inflammatory changes in both lung hilar areas. X-rays of flat bones, including the pelvis, showed no evidence of bone disease. Gastro-intestinal x-rays and barium enema disclosed nothing more than a gas distension of the bowel. The lymph node removed from the axilla was reported as normal.

The patient was given liver extract, folic acid and several transfusions. He reacted poorly to the transfusions, running a fever—and although his hemoglobin increased to 45%, he did not improve. His body became covered with petechiae and

there was some bleeding from nose, mouth and bowel. Death occurred on the 30th of September, twenty-two days after admission.

A post-mortem examination was performed by Dr. R. C. Riley, Pathologist at the Holy Cross Hospital. The only really significant finding was in the marrow. On sectioning the sternum and a number of ribs, the marrow was found to consist of soft, yellow tissue. There were no hemorrhages and scrapings demonstrated an enormous increase of fat.

Diagnosis

The normocytic anemia, the leukopenia, the thrombocytopenia and the marked hypoplasia of the marrow were the essential features in establishing the diagnosis of an aplastic anemia.

There are, of course, many causes for an aplastic anemia and often the cause is not apparent. The evidence in this case is not conclusive. The patient did volunteer the information that he first felt ill in the spring of 1947 about the time that he had finished treating his grain for the prevention of rust. He, like many other farmers, felt ill while using the chemical "Ceresan." Farmers state that while using this preparation they are able to taste it for several days and during this time have anorexia. Our patient was aware of the dangers involved in the use of the chemical and used the mask provided only part of the time. Because his neighbour had become quite ill while using Ceresan, he treated his grain for him. His symptoms, although varying in severity, improved as time went on, but became fulminating shortly after he treated his grain again in the spring of 1948.

I am advised by the manufacturers that Ceresan is a 5% mixture of ethyl mercury-phosphate contained in an inert dust, and that one-half ounce to a bushel of grain is used in the treatment. The dangers of using the chemical are strongly emphasized by the company and they insist that the mask which is provided must be worn.

Mercury may, without doubt, be destructive to bone marrow. I believe it is reasonable to assume that it was the cause of this blood dyscrasia. I have seen one patient with an optic atrophy and one with a nephritis in which the cause could have been mercury poisoning due to this same chemical. I believe that it would be well for farmers to be warned of such dangers and to have pointed out to them that disastrous results may occur long after exposure, and not merely at the time of actual use. For the physician, prevention is the best treatment but should poisoning develop, British anti-lewisite (BAL) may be used to some purpose.

Case Report: Amoebiasis

G. S. Varnam

Invasion of the human intestine by certain members of the Protozoa is common in many parts of the world. Of these Protozoa, five distinct species of amoebae are known to establish themselves in the gastro-intestinal tract of man. Only one of these, *Endamoeba histolytica*, is pathogenic for man. This organism is the cause of amoebiasis, an infestation of the colon. The remaining four are believed to be harmless saprophytes which have not been shown to invade the tissues or definitely to cause disease symptoms. The most common of the non-pathogenic invaders is probably *Endamoeba coli* which is important because of possible confusion with *E. histolytica*.

Amoebiasis may show acute or chronic phases with a variable clinical picture which depends upon the localization of the amoebae, the intensity of the infection and perhaps variations in virulence of different strains. Infestation by *Endamoeba histolytica* may persist for many years, frequently characterised by periodic exacerbations and remissions of intestinal symptoms. The clinical picture may be that of 1) the cyst-passing, asymptomatic or showing atypical symptoms; 2) amoebic diarrhoea; 3) acute amoebic dysentery; 4) chronic amoebic dysentery; 5) amoebic appendicitis; 6) amoebic typhlitis; and 7) amoebic granuloma.

Diagnosis of intestinal amoebiasis depends upon demonstration of *Endamoeba histolytica* in the stools of the infested person. Examination of both unstained and stained preparations of fecal material is carried out.

Treatment consists in using emetine in conjunction with one of the arsenicals (preferably carbarsone) or with one of the oxyquinoline sulforic acid group. Emetine is amoebacidal only for those organisms actually within the host's tissues. It is a general protoplasmic poison and its use is contraindicated in myocardial disease. The maximum safe dose is 1 mg. per kg. body weight per day and the total dose in any single course of treatment should not exceed 10 mg. per kg. body weight. It should be given intramuscularly. The arsenicals, especially carbarsone, are effective both in the tissues and in the intestinal contents but are contraindicated in severe liver or kidney disease. The oxyquinoline sulforic acid group are effective in intestinal contents only and are contraindicated in severe liver or kidney disease when choniofon NNR or diodoquin are used, but only in severe kidney disease when other members of the group are used.

The most common complications are amoebic hepatitis and amoebic abscess of the liver. They result from metastasis of the amoebae in the wall of the colon to the liver by the portal blood

stream. Incidence at autopsy indicates that hepatic abscess complicates 20-55% of cases in temperate climates.

Response to emetine therapy is often the most satisfactory means of differential diagnosis between these two complications. In hepatitis, response to emetine is rapid and complete with diminution in fever, pain, tenderness, liver enlargement and leucocytosis within 48 hours. In amoebic abscess the response to this drug is commonly only partially effective with residual fever, pain, tenderness and liver enlargement as asymptomatic. In amoebic abscess closed aspiration of the abscess, if large in size, should be carried out as often as necessary but only after the diagnosis is established in doubtful cases by the therapeutic test with emetine.

The following is a description of a case of amoebiasis admitted to Deer Lodge Hospital on July 13, 1948:

On admission, D. M. S., aged 39, complained of 1) nausea; 2) bloating, unsettled sensation in epigastrium; 3) a lot of "phlegm"; and 4) persistent steady tiredness even after a good night's sleep. These symptoms had been present since the Spring of 1946.

The nausea occurred any time during the day and was associated with the bloating and unsettled sensations. During attacks, which occurred about once a week and lasted from 1-4 days, patient "looked tired" (wife's statement) and became somewhat "sallow" (jaundiced?). The bloating and sensations in the epigastrium were more pronounced after eating. He had to rest completely to obtain relief during an attack.

During very severe attacks, patient noticed severe pain in the R.U.Q. about 3 inches from mid line and extending from the costal margin vertically downward about 3-4 inches. The general area of pain was "as big as palm of hand". There was no radiation. The pain was severe enough to double him up and lasted about an hour at the longest. Recently it had occurred much more frequently. The pain and the other symptoms were not precipitated by exertion.

The patient had been tired, physically and mentally, since his symptoms began. He experienced a complete lack of energy and felt tired even after a good night's sleep.

"Phlegm" collected overnight in the back of his throat. Coughing to expectorate this sputum was so violent that vomiting sometimes occurred.

His past history revealed dysentery in North Africa in November, 1943, and severe dysentery associated with jaundice in Italy from May to August, 1944, for which he was hospitalized until February, 1945. From that time he has had occasional bouts of diarrhoea and also a period of nausea in July, 1945.

His family history was essentially negative.

The review of systems was essentially negative except for the symptoms related in the history.

Physical examination revealed negative head and neck, lung and heart findings. His pulse was 70 and regular and blood pressure 120/80. Abdominal examination revealed tenderness over the epigastrium, over the R.U.Q. and over the lower end of appendectomy scar. The liver was palpable 3 inches below the costal margin. Jolting his liver caused severe pain in the R.U.Q. Otherwise, abdominal findings were negative. Reflexes were normal except that the abdominal reflex in the R.U.Q. was absent.

In summary we find diarrhoea followed by jaundice in Italy in 1944. Since then there is a history of recurring pain in the R.U.Q. with nausea, occasional vomiting, general malaise and lassitude. There is also a moderately enlarged liver. It was felt that this was probably chronic hepatitis but in view of the diarrhoea it was necessary that the presence of parasites should first be ruled out. Therefore, liver function tests and stool examinations for amoebae were done in addition to routine examinations.

Laboratory tests disclosed:

Blood: Hgb., 102%; W.B.C., 6,000.

Differential: Neutros, 56; Lymphs, 41; Monocytes, 2; Eosin, 1.

Chest X-ray: Negative.

Blood Wassermann: Negative.

Urinalysis: Sugar, negative; albumen, negative; otherwise normal.

E.C.G.: Flattened TI, probably normal.

Stools: Positive for cysts of *E. histolytica* and for motile and encysted forms of *E. coli*.

Occult Blood: 2 plus. Liver function tests showed minimal liver damage.

Serum bilirubin: .92 mg. %.

Bromsulphthalein test: Less than 2% dye retained in $\frac{1}{2}$ hour and 1 hour spec.

Urobilinogen: .9 mg. per 710 ccs of urine in 24 hours.

Liver profile: Thymol turbidity, 3 units; Thymol flocculation, negative; Cephalin flocculation, Takata Ara, negative.

In view of the normal heart and kidney findings and the findings of minimal liver damage, it was felt that response to treatment with emetine followed by carbarsone would be good. At this time a diagnosis of amoebiasis with hepatic involvement was made. On July 17, a course of emetine grn. 1 daily for 8 days followed by carbarsone $\frac{1}{4}$ gm. daily for 10 days was instituted. Only one course, lasting 18 days, was given. During the period of emetine treatment the liver regressed in size rapidly but increased in size again during the period of carbarsone treatment.

During this treatment, stool examinations for occult blood and feces bile were negative and stool culture for *E. histolytica* was also negative.

On August 7, treatment was completed. At this time the patient's bowels were regular and he had no diarrhoea, blood or mucus. His liver could not be definitely palpated but he still had tenderness to deep palpation in the R.U.Q. His only complaint at this time was tiredness.

Post-therapeutic laboratory tests showed:

Blood: August 10, Hgb., 102%; R.B.C., 4,600,000. August 17, Hgb., 100%; W.B.C., 7,000; Sed. Rate, 3 mm. in 1 hr. Differential: Neutros, 52; Lymphs, 44; Eosin, 4.

Stools: Negative for *E. histolytica* on 3 successive days, August 9, 10 and 11. Negative for occult blood.

Liver Profile: Thymol turbidity, 2 units; Thymol flocculation, negative; Cephalin flocculation, Takata Ara, negative.

E.C.G.: August 14, Prolonged QT. Flat TI. Inverted T in leads CF4 and CF5. These findings were consistent with emetine toxicity.

Sigmoidoscopy: Negative except for some old scarring in the lower sigmoid.

On August 20 it was found that the liver was now not palpable and there was good response to treatment. By August 26, the E.C.G. revealed QT segments now within normal limits and the T wave in leads I, CF4 and CF5 normal. Thus there were no signs of emetine toxicity and the E.C.G. was normal. There was no evidence of severe liver damage and gall bladder visualization was normal. Therefore, by August 26, recovery was considered to be completed uneventful. The patient was discharged with a final diagnosis of amoebiasis with amoebic hepatitis. However, chronic hepatitis of other etiology could not be ruled out finally and the patient was advised, therefore, to have stool examination in 3 months and complete recheck in 6 months.

Conclusions

1) This was a case of amoebiasis with amoebic hepatitis.

2) Response to treatment was rapid and recovery was uneventful.

3) Effects of emetine toxicity on the myocardium were seen when the E.C.G. of August 14 was compared with that done before treatment was started. However, the E.C.G. of August 26 revealed that the myocardium no longer showed signs of emetine toxicity.

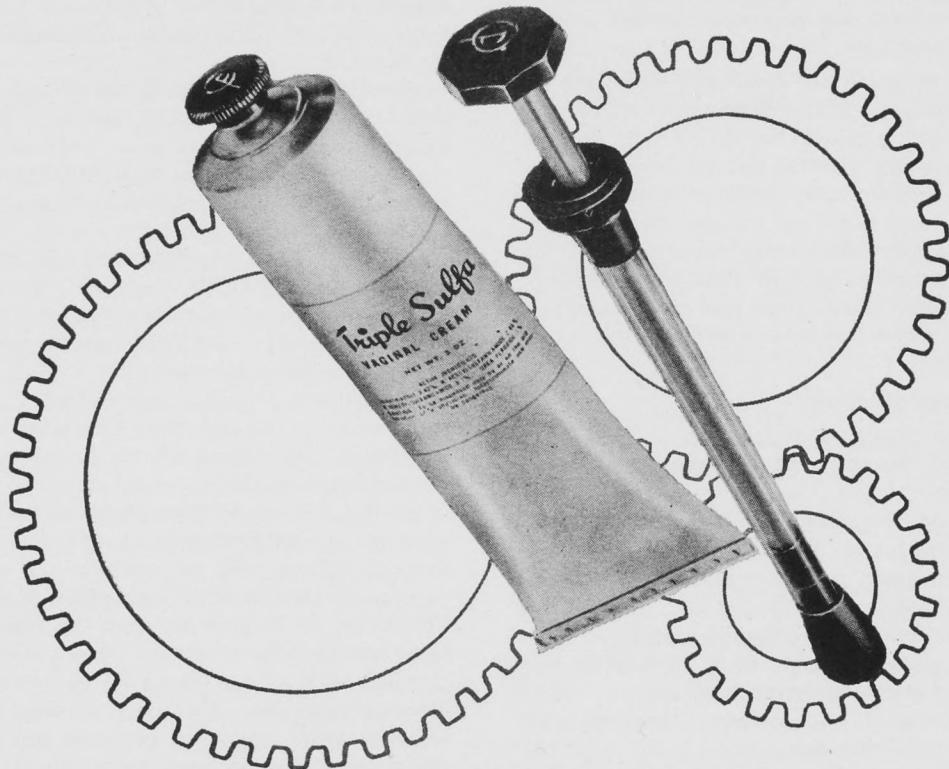
4) Chronic hepatitis of other etiology could not be ruled out definitely at this time.

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ANAESTHESIOLOGY

Edited by R. G. Whitehead, M.D.

Incidence and Prevention of Post-Operative Pulmonary Complications

The incidence of post-operative respiratory complications is difficult to assess statistically as reports of these pathological processes following surgical procedures vary widely. The necessary follow-up of each and every surgical case is only possible in the larger centres where there is a large and enthusiastic anaesthetic staff to maintain complete and accurate records of the post-operative course of each patient. Langton Hewer reports estimates of 6% and 8.9% in two analyses of morbidity of acute inflammatory disease of the respiratory tract. The incidence of atelectasis has been variously reported from 3 to 70% of all post-operative complications with 40% mortality amongst the persons affected. In Grandstaff's reports of the incidence of morbidity and mortality from respiratory complications at the Kansas City General Hospital, 0.22% of 2,704 cases had massive collapse of the lungs, 0.55% had atelectasis and 18% pneumonia, with an ultimate mortality of 0.88%. The percentage of respiratory complications with various agents was: (1) spinal, 3.1%; (2) cyclopropane, 1.6%; (3) ether (open drop), 3.2%; (4) cyclopropane-ether, 8.0%; (5) nitrous oxide 2.3%; (6) pentothal sodium, 0.0%; (7) spinal and gas, 3.0%.

Several writers express the opinion that a large part of the prevention of complications depends on the skill and experience of the anaesthetist. Be that as it may, there are numerous other factors of varying significance which may contribute to post-operative respiratory sequelae. Probably of first importance is the nature and site of the operation. Abdominal and chest surgery is accompanied by diminished pulmonary exchange because of an immediate post-operative splinting of the diaphragm and accessory muscles and the unwillingness of the patient to breathe deeply. Coughing, deep breathing and moving about in bed, all of which are essential to the removal of bronchial secretions and maintaining full expansion of the lungs, are inevitably accompanied by some pain after such operations, therefore, there is a tendency to refrain from these activities. As a result, a lobar or lobular atelectasis frequently complicates the convalescence. Mimpriss and Etheridge report a series of 100 cases of gastric surgery in which they had 34 cases with pulmonary complications including 1 lobar atelectasis and 29 cases of lobular atelectasis.

Cases which require a prolonged period of

deep anaesthesia are more liable to pulmonary sequelae than cases of similar operative time requiring a lighter plane of anaesthesia. The prolonged depression of respiration and circulation leads to congestion of the lung bases and pneumonia. In such cases the skill and experience of the anaesthetist is certainly an important factor in the prevention of complications.

Preliminary respiratory tract infection is another factor contributing to the incidence of post-operative sequelae. Acute or chronic conditions, particularly infections of the sinuses, mouth, nose and throat, definitely increase the operative risk as infected particles are very liable to be inhaled into the lungs and an aspiration pneumonia may result. Other conditions not directly associated with the respiratory tract, e.g. diabetes and cardiovascular disease predispose a higher incidence of pulmonary congestion and pneumonia following prolonged or deep anaesthesia. Excessive smoking with its associated chronic congestion of the upper air passages also predisposes to respiratory irritation and the incidence is even higher if irritating inhalational vapors are used.

There is a definite seasonal variation in the incidence of complications these being, in this country, more prevalent in the "coryza months" of the spring and fall.

Appreciating the numerous factors contributing to post-operative respiratory complications, the anaesthetist can do much to prevent these complications pre-operatively, during the operation and post-operatively.

Pre-operatively, the development of an acute respiratory tract infection in cases of elective surgery should be reason enough to postpone the operation for one or two weeks. In these days of hospital bed shortage and full operating room slates, the surgeon and anaesthetist, keeping in mind the additional cost to the patient of postponement of operation, are occasionally inclined to overlook the fact that the patient has a slight cold, rarely with disastrous results to the patient, but often a much prolonged convalescence.

Patients undergoing abdominal or chest surgery, or cases requiring prolonged bed convalescence, should be admitted to hospital two to three days prior to operation in order that they might be instructed in deep breathing exercises by the anaesthetist or trained physiotherapists. It is much easier to teach and stress the importance of these activities to the patient before operation than after when each movement is painful and a definite distress to the patient.

Excessive smokers should be urged to stop or

curtail smoking for several days prior to and after operation.

Excessive premedication should be avoided in elderly patients or patients with a history of chronic bronchitis, asthma, bronchiectasis, etc., also in surgery of the oral cavity, nose and sinuses where it is of the utmost importance that the patient be able to expectorate blood and mucous as soon as possible after the operation is completed.

The position of the patient during operation may contribute to the development of pulmonary complications. In the recumbent position there is little chance for drainage of secretions. In the Trendelenburg position, particularly in obese patients, the viscera are pressed against the diaphragm, restricting its movement and compressing the lung bases. With this position, however, there is a chance for the drainage of secretions. In the lateral and kidney position, with the table broken, the dependent lung is compressed and secretions from the uppermost lung drain into the dependent bronchus. Post-operative atelectasis in these cases will almost always occur in the opposite side from the operation, i.e. the dependent lung. It is important for the anaesthetist to maintain a clear airway in these cases by repeated bronchial, tracheal and pharyngeal aspirations and it is therefore recommended that these patients be intubated orotracheally to facilitate the passage of a suction catheter. Full expansion of the lungs should be maintained by frequent compression of the rebreathing bag.

The depth of anaesthesia should be kept on a plane adequate for the surgeon but also every effort should be made by the anaesthetist to maintain adequate pulmonary exchange with sufficient oxygen to promote adequate oxygenation of the blood. Irritating inhalational gases, e.g. ether, ethyl chloride, chloroform should be avoided wherever possible in cases of recent acute upper respiratory infection, chronic bronchitis and other chronic respiratory diseases.

Ootracheal intubation is preferred to nasotracheal intubation to avoid infecting the lower respiratory tract with secretions from the nose and posterior pharynx.

At the completion of the operation particularly in cases of prolonged deep anaesthesia stimulation of respiration with a moderate flow of oxygen using the semi-closed method will be beneficial. A thorough tracheal and pharyngeal toilet to remove all secretions should be done before the patient leaves the operating room. If deemed necessary bronchoscopy should be performed. Ideally, reflexes should have returned before the patient leaves the operating room or recovery room, if not, a pharyngeal airway should be left

in position. In oral and nasal surgery the patient must be placed lying on one side and should not be left alone until he has fully reacted. Suction apparatus should be at hand at all times to prevent the inhalation of vomitus. Binders which restrict respiratory activity must not be used.

On return to the ward following major operative procedures and particularly after abdominal and thoracic surgery, oxygen therapy should be instituted either by oxygen tent, nasal catheter, frequent inhalations of pure oxygen or carbogen. Deep breathing exercises should be started as soon as possible and repeated every three to four hours under supervision while the patient is awake for the first three days at least. Posturization and periodic carbogen inhalations are beneficial in bringing up secretions and maintaining full lung expansion. The patient should be urged to move about in bed as much as possible and should be turned frequently to prevent venous stasis and the possibility of pulmonary embolism.

A useful prophylactic procedure to prevent post-operative wound pain in abdominal and chest surgical cases and to facilitate deep breathing is an intercostal nerve block on the affected side. This may be done in the operating room or on return to the ward before the patient has fully reacted and should be repeated as often as required. McLeery, Zollinger and Lanahan have recently reported on the use of nupercaine in oil for intercostal nerve blocks following upper abdominal surgery and claim beneficial effects for 48 hours or longer from a single injection.

Chemotherapy, e.g. penicillin, aerosol penicillin, adrenalin, tetrade, etc., may also be used with benefit in prophylactic doses to prevent infection, reduce broncho-spasm and aid in the expectoration of troublesome mucous.

Post-operative narcotics should be used judiciously so as not to interfere with respiratory activity. Morphine is well known for its respiratory depressant properties and should not be used pre or post-operatively for very young or elderly patients, chronic respiratory sepsis or acute respiratory inflammation. Demerol may be used in such cases as it does not depress respiration and has an analgesic action greater than codeine but somewhat less than morphine. Intravenous procaine, 1 gram in 1000 cc's of normal saline, has been recommended as an excellent post-operative analgesic which does not depress respiratory activity.

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CANCER

Edited by D. W. Penner, M.D.

A Clinical Pathological Conference

Department of Gynecology and Pathology,
University of Manitoba

Clinical Summary

Mrs. J. S. Age 47 years. Admitted April, 1937.
L.N.M.P. 2 years ago. Para. 5, Gravida 5.

E. C.

1. Irregularity of menstruation 2 years
2. Amenorrhea 14 months
3. Abdominal pain 9 months
4. Enlarging abdomen 9 months

H. P. I.

Periods always normal until 2 years ago. At this time the interval between periods became longer and she would miss a month or two here and there. Frequency of menstruation gradually diminished during that time until periods ceased altogether, 14 months previous to admission.

About 9 months ago the patient noticed her abdomen enlarging and becoming firmer, and she began to have occasional needle-like jabs of pain in her abdomen, particularly on exertion; they were not localized. They gradually became more severe until 2 weeks prior to admission. They were very troublesome and her legs began to ache. The pains were never severe enough to confine her to bed.

Review of Systems: Negative.

Previous Illnesses: None.

Marital History

Five pregnancies—all carried to term. Children, ages 9 to 27 years. All labours were long and difficult. Doctor in attendance only at last birth.

Physical Examination

Essentially negative, except for abdomen.

Abdomen: Prominent, with distinct swelling, most marked below the umbilicus. This swelling is tense, smooth, regular, and can be moved slightly from side to side and raised up in the abdomen. This upward movement causes pain in the right lower abdomen. There is absolute dullness all over this swelling, most marked at its summit and fading away to a more resonant note in the flanks. This dullness moves to a degree by changing the patient's position.

Second Admission. December 1, 1937

E. C.

1. L.L.Q. pain 3 months
2. Swelling of the abdomen 2 months
3. Weakness and lassitude 2-3 months

H. P. I.

Following discharge in April, 1937, the patient felt well for about 3 months. In the past 3 months she has developed a nagging pain in the lower

left quadrant with exacerbations of moderately severe crampy pains which start in the left lower quadrant and radiate around into the left loin. In the past 2 months she has again noticed a rather rapid increase in the size of her abdomen. For 2 or 3 months the patient has experienced gradually increasing weakness and lassitude with loss of appetite.

Physical Examination

Negative, except for abdomen.

Abdomen: Distended below umbilicus with bulging in both flanks. There is a soft mass in the lower abdomen rising to the level of the umbilicus. It appears to be globular, about the size of a football.

Third Admission. March 13, 1938

E. C.

1. Lower abdominal pain 2 months
2. Paresis of left upper extremities 3 weeks
3. Continued loss of weight.

Physical Examination

Enlarged supra clavicular and axillary lymph nodes.

Upper extremities—paresis of all muscles on left with increased tendon reflexes and no sensory change.

Abdomen—generalized tenderness; suggestion of mass in R.U.Q., no free fluid demonstrable.

Pelvic and Vaginal Examination

April 4, 1937, reveals a normal cervix, movement of which does not move the swelling in the abdomen. The uterus cannot be defined; it seems to lie behind the tumor-like swelling and I would judge it to be normal in size. The tumor does not encroach upon the lateral or posterior fornices but from discomfort caused by raising it, it seems likely that it arises from the right adnexal region.

Report on Specimen Removed at Operation

April 5, 1937

Ovarian Cyst—Unilocular ovarian cyst, 20x20x15 cm. with a portion of the fimbriated end of the Fallopian tube attached. The outer surface is smooth, but the inner surface shows numerous small papillary projections. The cavity is filled with bloody fluid. The tube appears normal and there is a small cyst of the hydatid of Morgagni. Microscopic: A very active malignant papillary serous cystadenoma of ovary. This is confined to the interior of the ovary.

Discussion

This tumor is an example of the 50 per cent of serous cystadenomas which are malignant. Most begin as a simple serous cyst lined by a smooth small, darkly staining cuboidal cell and after a varying period of time, small papillary outgrowths

develop. If these grow rapidly they may fill the cyst cavity and extend through the cyst wall to form small warty growth on its peritoneal surface. This specimen had a smooth surface with no out-growths. A blood stained ascitic fluid was present. Ascites occurs early especially in the papillary tumors, the fluid being clear albuminous and in the acute cases it may be bloody. Later there may be a chronic fibrosing peritonitis which will yield gradually increasing amounts of fluid, leading to severe emaciation. Often the course of tumor growth is rapid. The serous papillary variety form somewhat less than one-half of the total cysts according to Novak. They occur more frequently in women after the menopause and are liable to torsion of the pedicle especially when the growth rises out of the pelvis.

Specimen Removed at Operation, December 6, 1937

Ovarian cyst (right)—An ovarian cyst 15 cm. in diameter. The outer wall is smooth, the lining is covered by papillary growth.

Microscopic: A very active malignant papillary serous cystadenoma of the ovary showing a picture identical with the cyst removed April last.

Bilateral tumors are found in two-thirds of all the serous cases in contrast to 17% in the pseudo-mucinous type. The high percentage of bilateral tumors would suggest the same stimulus producing neoplasm in both ovaries simultaneously. At the time of the first operation the remaining ovary appeared small and shrunken only to develop a

similar tumor 3 or 4 months later.

Although the first tumor removed did not show papillary tumors on its surface the blood-stained ascitic fluid may have contained minute clumps of tumor cells which would be implanted in the region occurring in the capsule of the ovary at a subsequent ovulation and so start tumor growth.

As no menstruation is described after the first operation it is not likely that ovulation would occur. Although appearing small and sclerotic at the time of the first operation early minute tumors might be developing within or the process start later—on this the pathogenesis is not clear.

Due to an inflammatory foreign body reaction small papillary implants on the parietal peritoneum may permanently regress after a primary malignant ovarian tumor is removed. This happy result is not common, however. Bilateral malignant tumors give a less favourable outlook.

Ovarian carcinomas comprise 15% of all pelvic carcinomas. Of these, 70% are serous cystadenocarcinomas. When tumors are bilateral at time of operation (50%) prognosis is poor. Taylor reporting on 63 cases of papillary serous cystadenocarcinomas gives a five-year cure of 16%. The recommended treatment is panhysterectomy usually to be followed with post-operative radiation therapy. Even in the presence of extensive carcinomatosis removal of the bulk of the tumor with radiation seems a justifiable procedure since occasionally it results in a cure.

Physicians' Art Salon

June 13 - 17 Saskatoon

Undergraduates Eligible

The former Canadian Physicians' Fine Art and Camera Salon moves into its fifth year carrying a new name but still sponsored by Frank W. Horner Limited and running concurrently with the annual convention of the Canadian Medical Association.

From June 13-17 at the Bessborough Hotel in Saskatoon fine art, monochrome photography, and color transparencies; all the work of Canadian physicians—will be exhibited on the convention floor and judged for suitable awards.

Change in Name

In response to requests for a simpler title the salon committee has secured permission from the C.M.A. to change the name to Physicians' Art Salon. The change is now being effected in all literature, prizes, and promotional material.

Undergraduates Welcomed

A new feature of the Physicians' Art Salon is found in its expansion to take in work done by undergraduates. Following the recent accelerated interest in the undergraduates art movement the Horner Company has enthusiastically underwritten the opening of an Undergraduate Section in all three media—each to carry special awards. It is hoped that medical students will seize this opportunity to show their work in the competition.

Judges

Three outstanding men in the related fields of art and photography have been approached to judge the entries. Their names will be announced as soon as final arrangements have been completed.

Awards

Enthusiasm for the type of award presented last year has dictated similar prizes for the 1949 Salon. Four cash prizes, process plaques and handsome certificates will form the bulk of the prize schedule.

In addition winning work will be reproduced in several medical magazines and in a special brochure by Frank W. Horner Limited. Tentative plans have been made for showing prize entries in several art galleries across Western Canada.

Procedure of Entry

Entry forms will be mailed to any physician or undergraduate who writes Frank W. Horner Limited. In addition the entrant's name will be placed on a special mailing list to ensure receipt of all promotional material.

The committee for the Physicians' Art Salon citing last year's popular exhibit expect another standout attraction for delegates at the June meeting. All those interested are urged to make their intention known as soon as possible. Please address requests to: Frank W. Horner Limited, 5 St. Urbain St., Montreal, Que.

Medico-Historical

J. C. Hossack, M.D., C.M. (Man.)

Physician to Executioner

I recognized many of my acquaintance as they galloped by, and was admiring the animated manner of a young man, who had urged his horse forwards, when, by some fatal accident, the beast fell just as they were about passing the high pole which is erected in the middle of the course, and its rider was thrown with great violence against the foot of it. He was immediately taken up and carried through the crowd. Someone, recognizing me to belong to shah's physician, invited me to take charge of him, and, without the least apprehension from my ignorance, I did not hesitate to put on the airs of a doctor. I found this unfortunate man stretched on the ground, apparently without life. Those who surrounded him had already prescribed largely. One was pouring water down his throat, "in the name of the blessed Hossein"; another was smoking a pipe up his nose in order to awaken him; and a third was kneading his body and limbs, to promote circulation. As soon as I appeared, these different operations were suspended, and, room being made, I felt his pulse with great solemnity, and as the surrounding uplifted faces seemed to solicit a decision, I declared with emphasis, that he had been struck by fate, and that life and death were now wrestling with each other who should have him. Thus (according to the practice of my master) having prepared my hearers for the worst, I ordered, as a preliminary to other remedies, that the patient should be well shaken, in order to discover if life was in him or no. No prescription was ever better administered, for the crowd almost shook to dislocation. This had no effect. I was about prescribing again, when a cry was heard in the crowd, Rah bedeh, Give way: Ser hisab, Heads, heads! and the Frank doctor (of whose skill I have before given some account) made his appearance, having been sent by his ambassador, who had witnessed the catastrophe. Without having seen the patient, he cried out, "Take blood instantly! you must not lose a moment."

I, who now felt myself called upon to assert the dignity of the Persian faculty, and give proofs of my superior wisdom, said, "Take blood! what doctrine is this? Do not you know that death is cold, and that blood is hot, and that the first principle of the art is to apply warm remedies to cold diseases? Pocrat, who is the father of all doctors, has thus ordained; and surely you cannot

say that he eats his own soil. If you take blood from that body, it dies; and go tell the world that I say so."

"As for that," said the Frank, who had now examined it "we may save ourselves any further trouble: it is dead already, and hot and cold are now all one." Upon this he took his leave, and left me and my Pocrat with our noses in the air.

"Then death," said I, "has had the best of it; the wisdom of man is unavailing, when opposed to the decrees of God. We doctors can no more contend with destiny, than the waters of an aqueduct can overcome those of a river."

A Mollah, who was present, ordered his feet to be turned towards the Kebleh, his two great toes to be tied together, a handkerchief wrapped under his chin, and fastened over his head, and then all the bystanders after him repeated aloud the profession of the true faith. By this time some of his relatives had begun the usual lamentations, when the bier was brought, and the dead body conveyed to his family.

Upon enquiry, I found that the deceased had been a nasakchi, i.e., one of the officers attached to the chief executioner, who has one hundred and fifty such under his command, and whose duties consist in preceding the shah in his marches, dispersing crowds, maintaining order, taking charge of state prisoners, and, in short, acting as police officers throughout the country. It immediately struck me, how agreeable and how convenient it would be to step into the dead man's shoes, and how much better my temper and disposition were suited to filling such an office than mixing drugs and visiting the sick. In turning over in my mind the possibility of acquiring this situation, I recollect that the chief executioner was a great friend of Mirza Ahmak, and under considerable obligations to him; for, but a few days since, he had persuaded the doctor to swear to the shah that wine, which is strictly prohibited at court, was absolutely necessary for his health, and that in consequence he had received a dispensation from the head of the law to drink it—a privilege in which he indulged to the greatest excess. I therefore determined to interest the mirza in my favour, and, if possible, to turn the waters of bitterness, which the fountain of fate had been pouring into the cup of the deceased, into streams of sweet sherbet for myself.

Morrier—"Adventures of Hajji Baba."

ARTICLE

War Crimes and Medicine

Amendment to Doc. C. 2/48 as Adopted by General Assembly of World Medical Association, September, 1948

The German Betrayal and a Re-Statement of the Ethics of Medicine
(Draft Memorandum)

Among the declared objects of the World Medical Association are the maintenance of the honor of the medical profession, the promotion of world peace and the helping of all peoples to attain the highest possible level of health. The first meeting of the General Assembly was held in September, 1947, soon after the passing of judgment, by the International Military Tribunal sitting at Nuremberg, on twenty-three Nazi doctors found guilty, as German major war criminals, of horrible crimes against human beings, many of them committed in the name of medical science. It was, therefore, appropriate that the Assembly should devote some time to the consideration of such a betrayal of the traditions of Medicine, and should authorize the publication of a statement of the attitude of the representatives of the medical profession throughout the world. Why did these doctors lack a moral or professional conscience, and forget or ignore the humanitarian motives and ideals of medical service? How can a repetition of such crimes be averted?

The Crimes

The Twenty-three German doctors tried at Nuremberg were not the only guilty ones; numerous unnamed doctors who carried out inhuman orders, who acted as technicians, or who connived at criminal acts were equally culpable. Since the end of the Second World War evidence has been published in several countries of the widespread criminal conduct of the German medical profession since 1933. A group of Czecho-Slovak doctors, for instance, published in "Medical Science Abused" an account of atrocities committed in their country by German doctors; three Swiss doctors, Dr. G. Menkes, Dr. R. Herrmann, and Dr. A. Miege, described in "Cobayes Humains" their visit to the concentration camps at Dachau and Struthof. A summary of the German medical crimes has recently been prepared by the United Nations War Crimes Commission. In addition, the Palestine Jewish Medical Association submitted to the World Medical Association a list of the crimes against Jews committed since 1933 by German doctors in the ghettos, concentration camps and extermination camps in Germany and Eastern Europe. Among articles in the medical press was one in the British Medical Journal of January 25th, 1947, by Dr. K. Mellanby, describing the "Medical Experiments

on Human Beings in Concentration Camps in Nazi Germany."

It is unnecessary to repeat here the ghastly and incredible details revealed by this and other evidence. The crimes committed by doctors have been classified by the United Nations War Crimes Commission as follows:

Experiments without consent on human subjects authorized by high authorities on the pretext of scientific research in the interests of war.

Experiments without consent conducted by medical officials in concentration camps on their own initiative in order to gain experience.

Deliberate selection of prisoners in camps for subsequent killing, by wilful medical neglect or by lethal injections.

Deliberate killing of infirm or feeble-minded patients and of children in hospitals and asylums.

The evidence indicates that the so-called experiments include:

The effect of vacuum and pressure chambers.

Sterilization—Chemical, operative and radiological, with controls by artificial insemination.

Blood transfusion.

Cold water immersion, with periodic test and different methods of resuscitation.

Liver puncture.

Deliberate septic infection.

Excision of parts of the body.

Experimental operative surgery—Non-indicated operations, for instructional purposes.

Exposure to gas and other chemicals for varying periods and results checked by autopsy.

Methods of "mercy killing," gas, benzene injections, cremation of semi-moribund individuals, etc.

There is also evidence that certain doctors have taken part in the preparation of the means of warfare or have placed their medical knowledge at the disposal of others concerned with such preparations.

Allegations have also been made that certain German doctors took part in projects for bacteriological warfare. The U.N.W.C.C. reports that positive information on the subject is very limited, possibly owing to the destruction of most of the evidence. It may be concluded from the evidence in the Nuremberg Trials that from 1942 onwards researches were being carried out in Germany, under the complete direction of the higher Nazi authorities, by specialized medical personnel, into methods of bacteriological warfare, and that the greatest secrecy was being observed in connection with them.

The Soviet Extraordinary Commission established that the Germans took deliberate steps to

spread typhus among the Soviet population and the Red Army. If this is so, it is reasonable to assume that their plans were made with the advice of medical experts.

A Solemn Condemnation

Having considered this evidence and the statements made to the General Assembly by medical representatives of countries which had been occupied by the Germans and by doctors who had personally experienced German brutality, the World Medical Association endorses the judicial action taken to punish those members of the medical profession who shared in the crimes and it solemnly condemns the crimes and inhumanity committed by doctors in Germany and elsewhere against human beings, both during the Second World War and in the years preceding that war.

The Essence of the Crimes

But these crimes, vivid and repulsive to the imagination as they still are and persistent though their effects may be, now belong to history, and the doctors of the world, having expressed their indignation, must now consider how any repetition may be prevented. To arrive at a conclusion, it is necessary first to consider what was the essence of the criminality of the doctors who stand condemned by their fellows. The Council of the British Medical Association, in a statement submitted to the World Medical Association, sums up the moral and professional offence as follows:

It is clear that certain doctors carried out their inhuman experiments both for the furtherance of the war effort and for research in disease. In the course of the experiments and in the application of their findings, they deliberately killed persons politically undesirable to the regime in power. They misused their medical knowledge and prostituted scientific research. They ignored the sanctity and importance of human life, exploiting human beings both as individuals and in the mass. They betrayed the trust society had placed in them as a profession.

The doctors who took part in these deeds did not become criminals in a moment. Their amoral methods were the result of training and conditioning to regard science as an instrument in the hands of the State to be applied in any way desired by its rulers. It is to be assumed that initially they did not realize that the ideas of those who hold political power would lead to the denial of the fundamental values on which Medicine is based. Thus, the care of the individual patient ceased to be the doctor's primary aim and the humanitarian purpose of medical science was subordinated to the needs of war.

The reclamation of the German medical profession cannot be effective until the German doctors

themselves acknowledge the iniquity of their conduct and declare their determination to return to the time-honored traditions and ideals of medical practice. Astonishment was expressed in the General Assembly of the World Medical Association that no sign whatever had come from Germany that the doctors were ashamed of their share in the crimes, or even that they fully realized the enormity of their conduct. The three Swiss doctors who reported on concentration camps write:

When questioned after the defeat of Germany, many professors and others who had conducted the experiments in the laboratories had not the strength of character to maintain their former attitude. The only excuse they gave was that of a child caught misbehaving itself, "We were only obeying orders," or other forms of "It wasn't I,"—which is lamentably true, at least in part. But what was most repugnant in this capitulation was that there was no confession of weakness, still less any expression of regrets or remorse.

An Invitation to the German Profession

German doctors have now had more than two years in which to think over their conduct, and it may be that there is a latent desire among them, perhaps more especially among young doctors, to rehabilitate themselves in the eyes of the world. A formal solemn declaration by a representative organization of German doctors to the World Medical Association, which represents national medical associations throughout the world, would seem to provide the German profession with an opportunity of giving a promise of their future good behavior. The General Assembly of the World Medical Association approved the following statement which it offers to the German profession for endorsement and signature:

"We, as the accredited representatives of the organized German medical profession, hereby acknowledge the participation of certain German doctors, both individually and collectively, in numerous acts of cruelty and oppression, and in the organization and perpetration of brutal experiments on human beings without their consent. We acknowledge that in performing these acts and experiments, which have resulted in the deaths of millions of human beings, the German medical profession has violated the ethical tradition of Medicine, has debased the honor of the medical profession, and has prostituted medical science in the service of war and political hatred.

We express our regret that no protest was made by the organized medical profession in Germany against the base uses to which it knew that medical knowledge was being applied, and we now place on record our condemnation and abhorrence of the crimes committed by mem-

bers of our profession in Germany and Eastern Europe since 1933.

We hereby solemnly give our promise, through the World Medical Association, to the medical profession throughout the world never again to participate in or permit such a betrayal of Medicine. We undertake to expel from our organization those members who have been personally guilty of the crimes referred to above, or who are not willing to promise to maintain a high standard of professional behavior in the future. We will exact from all our members a standard of conduct that recognizes the sanctity, moral liberty, and personal dignity of every human being."

Since this statement was issued there has come to the attention of the World Medical Association a declaration purported to come from the physicians of Western Germany.

"The German doctors and their professional organizations are aware of the fact that the crimes committed against humanity by a number of German physicians have destroyed their professional reputation throughout the world.

"The committee of the Chambers of Physicians of Western Germany has taken the following actions:

1. Since June 14, 1947, every doctor on obtaining his license takes the Hippocratic Oath as revised by this group.

2. On October 18, 1947, a resolution was passed condemning all crimes against humanity and all the German Physicians who had participated in the war crimes against humanity.

3. On November 29, 1947, the committee requested the German government to re-instate to full medical rights, as soon as possible, all those physicians who had been deprived of those rights by the National-Socialistic government for reasons of race, religion or politics."

Resolution of the Medical Chambers of Western Germany Concerning the Nuremberg Trials

"The German medical profession, along with the peoples of the whole world, were aghast to learn of the actions which were the basis of the Nuremberg trial of doctors. The German medical profession as a whole mourns for the victims sacrificed by a despotic regime which availed itself of science as one of its instruments and was assisted in so doing, by doctors. The doctors deeply regret that men out of their own rank committed such horrifying crimes.

"Now that the trial is over, every doctor will receive a copy of the conclusions reached by those German doctors designated as observers to the trial, and will then be able to form his own opinions. It is possible to state that compared to the number of doctors working in Germany, only a very small number of members of the medical

profession shared in these crimes. It is a part of a despotic regime that a criminal minority is entrusted with power over life and death.

"The German medical profession is aware of the wider dangers which are engendered in the errors of a few. It wants to formulate basic principles for the present and the future.

"Modern science cannot dispense with a complex machinery of research which is often incomprehensible to individual doctors. From this we conclude that the private interests of medical scholars (such as their quest for priority of discoveries) should take a secondary role where new incisive methods are being tried, such experiments to be submitted to a body of experts for their consent. This body would also explain the significance of such experiments to the public before they were tried on human beings.

"The trial also served to demonstrate the danger of interference of government authorities in medicine, since bureaucracies have no contact with the problems of doctors in their relationship with their patients. It was the N.S.D.A.P. and the army that tried to interfere with the freedom of the medical profession and to destroy it. It would be possible for foreign powers or the bureaucracy of the social services to act in a like manner. It is therefore, fundamental to preserve the individuality and independent responsibility of the doctors in medical activities. Society must guarantee the doctor his sovereignty in his own field. In giving medical care, a doctor should not be subjected to any orders or directives from government, but should live up to his knowledge of science and professional standards of good conduct.

"Doctors, with the exception of members of the medical services of the State and the professors of universities should be prohibited from becoming officials, since civil service status is incompatible with the right of self determination, which is the code of the medical profession. This applies especially to any medical work for military organizations. The position of doctors within public health services and within publicly owned clinics and hospitals should also be subjected to close scrutiny.

"After the experiences of the Nazi dictatorship the medical profession regards it as a duty to consider critically the effects on the medical profession of the present political and social conditions, which may imply the return of dangers similar to those of the Nazi regime. This critical attitude is indispensable for the preservation of fundamental professional freedom and public interest.

"The German doctors are conscious of their duty for the welfare of their profession in all its many aspects.

"Bad Nanheim, the 18th of October, 1947."

The World Medical Association decided to accept this as a preliminary statement from the doctors of Western Germany and to inform them that as soon as they have carried out the promises expressed in their statement, and as soon as there is established a recognized medical association, the World Medical Association will be glad to enter into further negotiations with them.

Medicine and Society

The signing of this declaration is, of course, only the first step the German profession must take to regain the confidence of the rest of the world. German doctors and, indeed, the doctors of every country where there is a tendency for political and social doctrines to develop at the expense of individual responsibility, should bear constantly in mind the moral aspect of medical research and practice. To quote again the British Medical Association's memorandum:

"Research in Medicine as well as its practice must never be separated from eternal moral values. Doctors must be quick to point out to their fellow members of society the likely consequences of policies that degrade or deny fundamental human rights. The profession must be vigilant to observe and to combat developments which might again ensnare its members and debase the high purpose of its ideals. The medical crimes committed in the late war have shown only too convincingly how medical knowledge and progress, unless governed by humanitarian motives, may become the instruments of wanton destruction in the pursuit of war."

The influence of Medicine throughout a nation is often under-estimated. Individually the doctor is more than the exponent of medical opinion and the technical expert. He is the confidant, the friend and the trusted adviser, and wields an influence far beyond the immediate realm of physical needs. Collectively the medical profession can cultivate throughout the world the growth of international amity."

The World Medical Association, which represents 500,000 doctors, should be able to exert influence in maintaining high professional standards in the countries of its member-associations. Through it the common responsibilities of doctors the world over to mankind and their common aspirations in the field of international friendship will find expression. It provides a channel for the interchange of information and ideas and for personal contacts between representative doctors in the different countries. Resolutions of its General Assembly should afford, on the one hand, moral support for national associations whose members may be experiencing a conflict between material interests and professional duty, and on the other hand, a warning to doctors who are in danger of allowing themselves to be lured from the path of duty.

The Teaching of the Student

A good deal of responsibility devolves on the teachers of medical students. They must see that their teaching is permeated with the ideals of Medicine. They must help their students to honor the traditions of Medicine and to absorb its humanitarian purposes—the succour of the bodily and mental needs of the individual irrespective of class, race or creed; the cure of disease; the relief of suffering; the prolongation of human life; and the prevention of disease. In a word, the ultimate aim of medical practice must be, as the World Medical Association puts it in the list of its own objects, "to assist all peoples of the world to attain the highest possible level of health." The prospective doctor should be taught by both precept and practice, that this aim must be pursued by the scientific method coupled with the spirit of charity and service.

Back to Hippocrates

It used to be the custom for every doctor on graduation or on receiving a license to practice medicine to take the "Hippocratic Oath." In many medical schools, however, this custom has fallen into disuse or has become a mere formality. The World Medical Association believes that the restoration of the taking of the Hippocratic Oath or of a suitable modern substitute as a serious part of the graduation or licensing ceremony would help to impress on newly-qualified doctors the fundamental ethics of medicine and to raise the general standard of professional conduct.

Although the forms of medical practice may change, and new medical knowledge become available, the spirit of the Hippocratic Oath endures, and it may, in every age and in every country, be accepted as the foundation of the conduct of every medical practitioner. It enjoins:

The brotherhood of medical men;

The motive of service for the good of patients;

The duty of curing, the greatest crime being co-operation in the destruction of life by murder, suicide, or abortion;

Purity of living and honorable dealing;

Professional secrecy for the protection of patients;

Dissemination of medical knowledge and discovery for the benefit of mankind.

It is desirable that a uniform promise should be devised to be administered in every country to all practitioners when receiving authority to practice. The Association considered several different forms of undertaking in use in various countries and it recommended for the consideration of universities and licensing authorities the adoption of the following or a similar promise:

"At the time of being admitted as Member of the Medical Profession

I solemnly pledge myself to consecrate my

life to the service of humanity;

I will give to my teachers the respect and gratitude which is their due;

I will practice my profession with conscience and dignity;

The health of my patient will be my first consideration;

I will respect the secrets which are confided in me;

I will maintain by all the means in my power, the honor and the noble traditions of the medical profession;

My colleagues will be my brothers;

I will not permit considerations of religion, nationality, race, party politics or social standing to intervene between my duty and my patient;

I will maintain the utmost respect for human life, from the time of conception; even under threat, I will not use my medical knowledge contrary to the laws of humanity.

I make these promises solemnly, freely and upon my honor."

In view of the recent war crimes and the continued troubled state of the world, the giving of this promise by every newly qualified doctor should have a beneficial effect on his attitude to medical practice and its obligations. In the long run the common promise given by all doctors

should afford a world-wide bond uniting them in a common service to humanity.

Summary

1) The World Medical Association solemnly condemns the crimes committed against humanity since 1933 by German medical practitioners. It endorses the judicial punishment of such crimes.

2) The Association invited a representative organization of German doctors to make a public declaration acknowledging the participation of the German medical profession in pre-war and war crimes and promising in the future to respect the personality, dignity and freedom of the human being. (See page 207).

3) Eternal vigilance on the part of all doctors and full recognition of the influence of medicine on society are necessary to prevent the recurrence of such crimes as have been committed in Germany.

4) The traditional aims and ethics of medicine should pervade the medical curriculum.

5) It is desirable that a uniform Oath or promise based on the spirit and content of the Hippocratic Oath should be subscribed to by every medical practitioner on receiving his medical degree or his license to practice. The Association, after considering various forms of promises in its General Assembly, adopted the vow as given on page 209.



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EDITORIAL

J. C. Hossack, M.D., C.M. (Man.), Editor

Twelve Resolutions

The following twelve resolutions were adopted at Geneva when the General Assembly of the World Medical Association met in September, 1948. They express the attitude of the profession toward the threat of what is tantamount to enslavement. The latter word may appear to be too strong so far as our own country is concerned. But it is not too strong when applied to other countries where State Medicine is the rule. In the United States medical leaders view the situation so seriously that they are urging every doctor to become a supporting member of the United States Committee of the World Health Association. The twelve resolutions should be before us whenever a national health plan is being considered and the desirability of any plan should be gauged by its closeness to the ideas contained in the Resolutions.

1. Freedom of choice of physician by the patient. Liberty of physician to choose patient except in cases of urgency or humanitarianism.

2. No intervention of third party between physician and patient.

3. Where medical service is to be submitted to control, this control should be exercised by physicians.

4. Freedom of choice of hospital by patient.
5. Freedom of the physician to choose the location and type of his practice.
6. No restriction of medication or mode of treatment by physician except in case of abuse.
7. Appropriate representation of medical profession in every body (official) dealing with medical care.
8. It is not in the public interest that physicians should be full-time salaried servants to the government or social security bodies.
9. Remuneration of medical services ought not to depend directly on the financial condition of the insurance organization.
10. Any social security or insurance plan must be open to the participation of any licensed physician, and no physician should be compelled to participate if he does not wish to do so.
11. Compulsory health insurance plans should cover only those persons who are unable to make their own arrangements for medical care.
12. There shall be no exploitation of the physician, the physician's services or the public by any person or organization.

BOOK REVIEWS

Murder Most Foul

Crime, someone has said, is everybody's business. At any rate everyone feels its cost if only in the taxes we pay for police protection and for the incarceration of wrong doers. But crime is also almost everybody's amusement for, in quantity, detective fiction surely exceeds all other forms of light reading if not, indeed, all forms of entertainment. The cliche "crime does not pay" must therefore raise a smile on the faces of thousands of people who write, print, publish and sell detective tales or who are concerned with their production on stage, screen or radio.

It is not our purpose to inquire into the reasons why crime and criminals should so fascinate the law-abiding. The fact remains that they do, albeit the detective mystery is largely a battle of wits between author and reader or listener. We are intrigued by ingenious plots, fantastic situations and unexpected denouements. But we know that these are mere figments of imagination free from any "crude, pure facts, secreted from men's lives." In them there is no probing of men's souls, no

turning over of the sordid filth that rots therein, no backward search from the baneful fruit to the tainted seed which gave it birth. Yet there is the matter that we should contemplate, for the evil plant has roots and if we would turn our interest in crime to useful account we must bare and explore these roots.

An action is always logical to the doer of it, whether that action be the preparation of a poisoned chalice or the crude demand to "stick 'em up." In a sense, moreover, we are all instinctively criminals for the child makes no distinction between meum and tuum. In emotions and instinctive urges we differ not at all from the wrong-doer, but, unlike him, these we deliberately control. Exercise of this control makes one man socially acceptable while failure to exercise it makes another anti-social and infects the community with the plague of crime.

Strangely enough the average criminal fails to realize his anti-socialism. He does not regard himself as the member of an anti-social group. His actions, however, grave and perverse are always logical to him and he expects the community also

to accept them as logical. The study of criminology, therefore, is much more profound than appears upon the surface. Criminals form no group. Among themselves they are as diverse as are their victims because, like their victims, they are individuals governed by their personalities and motivated most often not by overt but by obscure reasons.

Crime and the Mind

This is not a discourse on criminology but merely an introduction to a review of three books—one small, two very large—whose common theme is crime. The small book, **Crime and the Mind** (219 closely printed pages) is written by Walter Bromberg, the former Director of the Psychiatry Clinic of the New York Court of Sessions. It is full of crude, pure facts secreted from the lives of hundreds of convicted criminals. Crime touches you too closely for you to ignore Bromberg's grim story. He tells about the changing and unchanged attitudes of Society towards the criminal and of those of the criminal towards Society. There was a time when penal laws were terribly harsh and the attitude of Society towards ill-doers was notoriously cruel. He follows the development of the new approach from regarding the criminal as essentially subhuman to looking upon him as the agent of a twisted mind and to the search for a better understanding of the why of crime.

Most of the book is devoted to consideration of individual criminals — to the personality types and to the stories behind the stories of their misdeeds. There is abundance of illustration. Major and minor crimes of all sorts are traced to (for the uninitiated reader) the most unexpected sources. Even to the offenders themselves the *fons et origo* of their offences were revealing. These glaring, pathological examples of man's behaviour give strong emphasis to Pope's assertion that the proper study of mankind is man. From a consideration of the pathological we gain insight into the normal and so in this study of Crime and the Mind we can, all of us, learn not only much about criminology but a good deal also about people as a whole.

Crime and the Mind, an Outline of Psychiatric Criminology, by Walter Bromberg, M.D. Formerly Director, Psychiatric Clinic, Court of General Sessions, New York, N.Y., and Senior Psychiatrist, Bellevue Psychiatric Hospital, New York. J. B. Lippincott Co., Montreal. Price, \$5.50.

Case Histories in the Psychopathology of Crime

The large volumes are entitled "Case Histories in the Psychopathology of Crime" and form volumes III and IV of a series. Each is large (over 800 pages) and each relates in most detailed fashion the story of four criminals. Each offender is put, as it were, under the high power of a microscope. Each history is exhaustive. Each is a biography

which reveals not only the major events of an ill-spent life but probes into its most intimate details. The facts are often revolting, and bestial, but they are facts and without them the story would be incomplete. The information in each example was gathered in many ways—by interrogation from police records, by analysis, by written statements of the men themselves. The gathering was a long and slow process and demanded on the part of the criminal a feeling of trust in the investigator.

The purpose of these studies is to lay bare the minds of those who fall foul of the law. Only in that way lies progress in the control of crime. The studies are extraordinarily complete and each is as illuminating as, even more so than, the famous clinico-pathological conferences. Only here the author deals essentially with feelings rather than with organic changes. How can feelings which reveal themselves in abnormal actions be directed into useful channels? That is the problem the author seeks to solve. A crude statement of facts is far less valuable than an intimate study of feelings for we cannot approach a solution of the most serious problem unless we have an understanding of the basic emotional causes which go into the making of criminal behaviour.

For the ordinary medical reader the book is revealing for it lays before his eyes pictures that not even his imagination could conjure up. For those whose work is among criminals—judges, lawyers, social workers, penal officers—the volumes are essential reading. One is amazed at the patience and assiduity necessary on the part of the author for the accumulation of this mass of material. He interviewed the characters formally but often visited them in their cells as a doctor but also as an understanding visitor, even as a friend. Only in that spirit of intimacy could he get from them the facts and information which forms the substance of these volumes. As for the books themselves I question if anything on a like scale has ever been attempted before. Certainly nothing like it has been accomplished.

Case Histories in the Psychopathology of Crime, by Ben Karpman, Senior Medical Officer and Psychotherapist, St. Elizabeths Hospital, Washington, D.C.: Medical Science Press, Washington, D.C. Price \$14.00 per volume.

Disability Evaluation, by Earl D. McBride, B.M.D., F.A.C.S. (Fourth Edition). (Embodies the Principles of Compensable Injuries). J. B. Lippincott Co. \$14.00.

For the physician dealing with injuries covered by compensation this book constitutes a valuable guide and an excellent reference. It is replete with tables, photographs and diagrams, making for extreme clarity. The Index, which is such a valuable part of any book, is fairly complete but could be improved upon for speedy and easy reference.

Being an American publication, it deals necessarily with laws of that country where they apply to compensable injuries. These differ considerably from the Canadian laws, and are therefore not completely applicable; nevertheless, they serve as a useful guide.

About one-half of the book deals with stiffness (ankylosis) of the various joints and the various types of fractures. This includes diagnosis, treatment and evaluation of disability. However, such other conditions as the Industrial Back, Nerve Injuries, Hernia, etc., are also dealt with and Injuries of the Eye and Ear are written through the assistance of Dr. Frank R. Spencer, Boulder, Colo.

Here, then, is a book written by a doctor who has had wide experience in dealing with industrial and compensable injuries and is well versed in the assessment of disability as a result of such injuries. Information gleaned from it may make for a more rational and just appraisal of a workman's disability. The book consists of 667 pages, 80 tables or more, 374 figures and a number of charts.

Notes by the Way

There are more abnormal hearts than diseased lungs in a community, which suggests the advisability of studying the heart in routine fluorograms. Such is the suggestion of G. Berenson in the American Journal of Public Health (38: 1564, 1948). He admits the difficulties but stresses the advantages of such study.

Digitalis Intoxication may first reveal itself by neurological evidences. These range from restlessness and fatigue to coma and convulsions, and include abnormalities of vision, mental disturbances, neuralgia in any site and paraesthesiae. According to Batterman and Gutner (American Heart Journal 36: 582, 1948) 41% of the toxic manifestations of digitalis, many of which have had little or no mention in the literature, are revealed in some part of the nervous system.

Coronary artery disease is no more common among doctors than in the general population. Its greater frequency in men is less the result of their way of life than of congenital changes in their vessels. In the new-born male the coronary intima is about three times the thickness of the same structure in the female. In patients under forty, vascular changes may be, and often are, confined to the coronary arteries. Patients who suffer from diseases associated with high blood cholesterol are particularly prone to coronary heart disease but the exact pathogenic significance of hypercholesterolemia is still undetermined.

Tuberculosis appears to be on the increase, is on the increase in the City of New York. There the figures show that 12% new cases were recog-

nized during the first eight months of 1948. In the borough of Manhattan the increase was 17% and there was, further, an increase in the death rate of 4%. In Boston, also the figures were up 15%.

Amebiasis must be more common than we realize if it be true that 8% to 10% of the population of the United States is chronically infected. Typical symptoms occur in only 10% of those infected but the symptom-free are potentially dangerous. Laboratory diagnosis is not easy for it requires experience and also refinements in technique which are not commonly applied. Clinically, the chief clue is the presence of vague symptoms referred to the alimentary canal. Persons who have been overseas, especially in the East, and who have such complaints may well suffer from amebiasis.

If you live till you are 65 you have a better than ever chance of reaching 80. According to the Metropolitan Life Insurance Company one out of every fourteen persons in the United States is sixty-five years old. A century ago the proportion was only one in forty. Of those now sixty-five three out of five men and two out of three women will reach their seventy-fifth birthday, and the survivors of that age can look forward on the average to a further eight years of life.

Dental destruction and Vitamin C intake go hand in hand when the source of the vitamin is lemon or orange juice or ascorbic acid. By placing extracted teeth with beginning cavitation in a solution of citrus juice or ascorbic acid disintegration of the enamel could be observed. Similarly affected teeth showed no deteriorative change when kept immersed in solution of sodium or calcium ascorbate. This suggests that one of these salts should be prescribed in place of the acid when tooth decay is present or its prevention is to be assured. The experiments and their results are described by Ruskin, Merrill and Ruskin in the American Journal of Digestive Diseases (15: 302, 1948).

Obituary

Dr. Leon Georges Benoit

Dr. Leon Georges Benoit, of Norwood, died on February 19, aged 67. Born in Montreal, he graduated from Laval University in 1905 and four years later he came to St. Boniface where he continued to practise till his death. He was attending physician for the St. Boniface Old Folks Home, the Grey Nuns Provincial House, St. Boniface College, St. Boniface Juniorate, the Oblate Sisters Provincial House.

Dr. Benoit was a fourth-degree member of the Knights of Columbus. He is survived by his widow and two daughters.

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Modification is often preferable since it reduces to a minimum the illness and hazards associated with measles, but does not interfere with the acquiring of the active and lasting immunity which is conferred by an attack of the disease. On the other hand, complete prevention of an attack of measles is frequently desirable, and can be accomplished provided that an ample quantity of serum is administered within five days of exposure to the disease.

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Winnipeg Medical Society—Notice Board

Reported by L. R. Coke, M.D.

R. A. Macpherson, President

T. E. Holland, Vice-President

Next Meeting

S. A. Boyd, Treasurer

Friday, April 15th

K. R. Trueman, Secretary

Nominating Committee Report

At a meeting of the nominating committee which was held in the Medical Arts Club Rooms, March 1st, 1949, the following names were chosen as nominees for the term 1949-1950:

President:	Dr. T. E. Holland
	Dr. J. S. McInnes
Vice-President:	Dr. E. S. James
	Dr. K. R. Trueman
Secretary:	Dr. Sam. A. Boyd
	Dr. A. R. Tanner
Treasurer:	Dr. William J. Boyd
	Dr. Jack McKenty
Trustee:	Dr. B. Dyma
	Dr. T. A. Lebbetter

Salaried doctors will have to ask for a raise if the ten dollar fee for the Winnipeg Medical Society is beyond their means. This was the decision of the Council of the Society at the February Meeting.

A letter was read from a member who asked that the Winnipeg Medical Society consider the possibility of adopting a five dollar annual subscription from members who were not in practise and were not allowed to deduct the amount from their gross earnings for income tax purposes. A report of the findings of a committee that met to consider this question last year was read and it was decided that no purpose would be served by further study of this matter. No consideration was given to the fact that the regular Post-Graduate travels of most of those on salary makes them miss a proportion of the meetings whereas existing income tax regulations ensure the possibility of a full attendance of the doctors practising individually.

The physicians were largely absent and more largely blamed by Professor D. C. L. Bingham in his lecture on Carcinoma of the Colon. The caecum and ascending colon are part of the Mid-Gut. Sixty per cent of patients with cancer of the right colon come to the doctor with dyspepsia. Another thirty per cent have symptoms related to the anemia of intestinal bleeding. A year usually lapses from the onset of symptoms to the time of operation. The physician more than the patient is responsible for this loss of time.

Patients with cancer of the left half of the colon usually notice a change in their bowel habits. With improved X-ray methods, digital and sigmoido-

scopic examination have not lost their importance. Professor Bingham said that the liberal use of blood, the sterilization of the bowel contents before operation with antibiotics in all cases in which the faecal stream continues to move, together with a two surgeon technique for the abdomino-perineal operation makes many cases previously considered inoperable, amenable to surgery.

At a special meeting on the seventh of March the Winnipeg Medical Society heard Dr. A. J. Cipriani speak on the use of radio-active isotopes in medicine. Isotopes are considered most valuable in biological research at the present time. Radio-active carbon, phosphorus and iodine are available for research. It is assumed that tissues do not distinguish the radio-active atoms and that these and the ordinary atoms are metabolized in proportion to their availability. Dr. Cipriani stressed the experimental nature of human trials with isotopes and the present lack of antidotes in instances of overdosage. It was apparent that he did not agree with the suggestion put forward at the meeting of the Winnipeg Medical Society in April, 1947, that radio-active iodine would soon replace both propylthiouracil and surgery in the treatment of hyperthyroidism.

The next meeting will be held in Theatre "A" of the Medical College on the eighteenth of March. Dr. N. P. Merkeley will speak on Reconstructive Surgery of the Hand and Dr. A. Gibson will speak on the use of the Vitallium Cup in Arthritis of the Hip-Joint.

REMEMBER
Winnipeg Medical Society
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 Subscriptions may be sent to
 604 Medical Arts Building

New Drug on Prescription Only

Ottawa, Feb. 28.—Hon. Paul Martin, Minister of National Health and Welfare, announced today that it had been found necessary to add to the list of drugs to be sold only on prescription, Tetraethylthiuram disulphide, commonly known as Antabuse or Abstinal.

He pointed out that this drug, which is very potent, will be available on the Canadian market almost at once, and that, in view of its effects, had to be restricted as to sale.



Now that Wyeth research has developed processing and packing technics that make it possible to stabilize ascorbic acid in milk products, *Vitamin C has been added to S.M.A.* So well fortified is S.M.A. that, when prepared according to directions, it provides a minimum of 60 mg. of ascorbic acid per quart for at least 24 hours. The S.M.A. formula closely approximates mother's milk . . . is well suited to modification for special feeding problems.



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SOCIAL NEWS

Reported by K. Borthwick-Leslie, M.D.

Welcome home to Dr. and Mrs. "Bob" Tucker. Both have been doing excellent work in England during the war and since. Bob was demobilized in 1945. He attended the University of Liverpool, attaining his Surgical Degree, then eighteen months in Research work on the Blood Supply of the Head and Neck of the Femur with early diagnosis of avascular bone necrosis—then Orthopedic Registrar at the Preston Royal Infirmary—Home to Winnipeg where Bob is now associated with Dr. Alexander Gibson. We will be hearing more from him, especially re the Research Work results.

Welcome home too, to Drs. Catherine and Edgar Thomas, recently returned from Post Graduate work in England. I haven't had much chance to talk to Catherine (MacDonald) Thomas, but am sure she brought back other souvenirs, beside the Siamese kitten pictured with her.

Interesting too were the pictures of Mrs. Byron Unkauf and boys who will soon be joining Dr. Byron in New Orleans. They are all recently returned from P.G. work in England. Byron will be associated with Dr. Guy Coldwell, president of the American Academy of Orthopedic Surgeons.

No wonder Jack McKenty wanders about with that smug detached air! He is probably perpetually, mentally patting himself on the back because of that most attractive and popular daughter, Betty Jane. She was awarded the Zeta Tau Alpha cup, a token awarded to the outstanding sorority woman of the U. Campus, both in academic record and extra-curricular activities.—Congratulations, Jack.

Dr. Ellen Douglas, who spoke at the first meeting of the U. Women's club in the Ralph Connor House in 1939, had the honor of speaking and cutting the birthday cake at the anniversary party last week. The Club was organized forty years ago and incorporated in 1939, when the clubhouse was purchased.

Congratulations to Dr. and Mrs. W. Karlinsky, of Emerson, Man., on the birth of a daughter, Karen Susan, on March 18th, 1949, at the Winnipeg General Hospital. Also to Dr. and Mrs. Joseph Brook, of Beausejour, Man., congratulations on the birth of their daughter, Carolyn, on March 20th, at St. Boniface Hospital.

Dr. and Mrs. W. H. Ostapovitch, of Holland, Man., announce the arrival of Linda Rae on March 2nd, 1949.

Dr. and Mrs. Art Childe have returned, looking tanned and healthy, from a month's—sorry, three weeks tour through the Eastern States as far as Key West. Art thinks 80 deg. during the day and 70 deg. at night is not hard to take at all, at all. Their first week was spent in Chicago, attending meetings. Sort of making the trip look official and scientific!

Then to make us feel better about our 20 below blizzard, our photogenic friends, Drs. W. J. Wood and "James" Adamson—(Who is He?), Major Smellie and, according to "Time"—Harry Lewis were flying to the far North on that urgently scientific mercy flight. Hats off to them—Good work.

McGill graduates of 50 years standing, to be introduced at a McGill luncheon in honor of President Gillson, were Drs. C. A. McKenzie and Thomas Turnbull.

Dr. and Mrs. Quentin Jacks have returned from Vancouver, combining a winter holiday with work. Quentin attended a course on the recent advances in general practice.

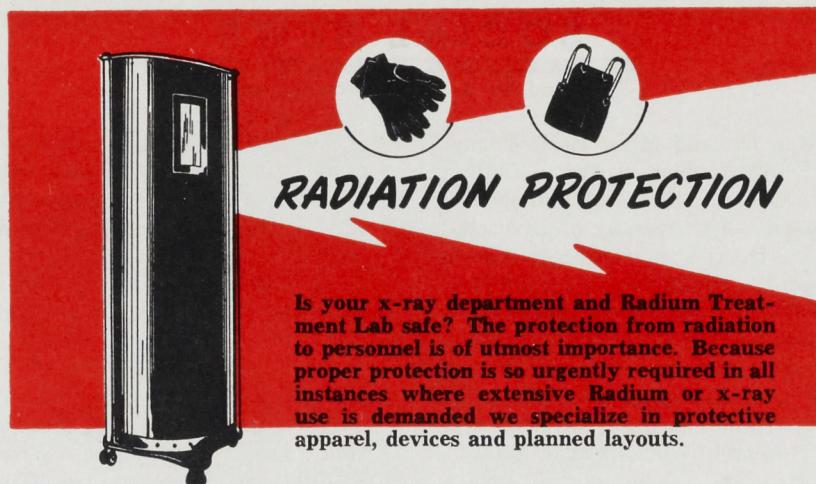
Dr. Ida Armstrong, accompanied by her mother, who will be celebrating her 80th birthday soon, has returned to Winnipeg from holidaying in Bermuda—while across our continent Dr. and Mrs. A. Hollenberg dock at Victoria, after spending some weeks in Australia.

Harriet Duff Smith is a smart woman! Addressing a meeting of the Canadian Literature Club in Toronto recently, what did she do? She chose Dr. Harold Waldron's work at Vita as her topic and she gave him a well deserved build up!

Dr. and Mrs. Rod Chadwick announce the birth of their daughter, Saxon Lee, February 25th, 1949, at Hong Kong.

Dr. and Mrs. Robert Beamish are receiving congratulations on the birth of red haired (so I am told), 10½ pound Catherine Margaret on March 15th, 1949. Bob, you will be thankful for that P.T. in the army when you do your share of walking the floor with her.

It was a shock to his many friends and associates here, to learn that Dr. J. A. MacKenzie, of Winnipeg, Carman and Gretna, had died in Milwaukee.



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ASSOCIATION PAGE

Reported by M. T. Macfarland, M.D.

Highlights of a Meeting of the Executive Committee Held on Sunday, Feb. 20th

Fifteen Executive members and eight Association members attended.

Federal Health Grants—Two meetings of the Central Departmental (Advisory) Committee were held on February 3rd and February 7th, when various projects were submitted. Notification of approved projects has been by means of press releases from Ottawa.

Various sub-committees set up by the Executive are to maintain a watching brief.

Group Insurance—Over three hundred contracts in force. Since it was not possible to contact all the members in rural areas of the Province before the end of January, applicants up to the age of fifty-five were accepted without evidence of insurability until the end of February.

Fee Taxing Committee, Workmen's Compensation Board—Two meetings of this Committee have been held and the Executive recommended to the Workmen's Compensation Board that the following accounts be referred to the Fee Taxing Committee of the Association: 1. Where no fee is stated in the W.C.B. Fee Schedule; 2. Where request is made by the Medical Officer, W.C.B.; 3. Where the assessment made by the W.C.B. is in dispute by the practitioner concerned.

Manitoba Medical Service—Approval was given to the removal of any income limitation for subscribers to the Manitoba Medical Service, with the recommendation that no extra billing be instituted.

Report of Fee Revision Committee, M.M.A.-M.M.S.—A committee, under the Chairmanship of Dr. P. H. McNulty, has been active since January, 1948, reviewing discrepancies in the Minimum Schedule of Fees of the Association, and preparing suitable standards for the application of the Fee Schedule by the Manitoba Medical Service. The committee met on several occasions, spending many hours dealing with rules and fees. Several items not previously listed have been assigned one fee for the general practitioner and another for specialist care, thus eliminating to some extent the specialist differential. The voluminous report of the committee was presented and action taken by the Executive Committee as follows:

1. The Schedule of Fees and Rulings presented by the Fee Revision Committee were recommended for institution by the Board of Trustees, Manitoba Medical Service, at such date as the Board decides.
2. The Fee Revision Committee, M.M.A.-M.M.S. was requested to continue to function until March 31st, 1949, to make such additions to the Schedule

as were considered necessary. 3. The officers of the Executive Committee will, at the next meeting, suggest three names to be known as the Fee Committee of the Association, which Committee will be a power to hear appeals on all matters pertaining to fees, bring in recommendations to the Executive from time to time, and to hold office at the pleasure of the Executive Committee. Accordingly, the Negotiating Committee of General Practitioners and Specialists was relieved from further duties. With the agreed schedule for M.M.S. work a revised copy of the Minimum Schedule of Fees of the Association will be required.

Financial and Membership Committees—Action was taken to have the Association bonds changed from coupon bearer form to registered bonds. A satisfactory bank balance was reported since membership fees collected as at February 14th, totalled 462.

Budget for Sections of the Association—Dr. A. T. Gowron, President of the General Practitioner's Section, appeared before the Executive to inquire concerning the policy of and recommendation from the Executive Committee to various District Medical Societies and Sections which require fees to pay incidental expenses. The Executive Committee is on record favouring the raising by sections of funds which may be required for their own activities. The Association undertakes to carry out, for these groups, such secretarial work as the facilities of the office will permit.

Legislation—Dr. Ross Cooper, Chairman of the Committee of Fifteen, and Dr. J. S. Poole, Chairman of the Legislative Committee, C.P. and S., are charged with the responsibility of considering Legislation which may affect the medical profession. Thus far, there has been no meetings with the Department of Public Health to review proposed legislation.

Annual Report of the Cancer Relief and Research Institute—which was presented at the meeting of that body on January 28th, was mentioned by Dr. Goodwin, and recommended for perusal to all those who might be interested.

Anesthetists—Anaesthetists are anxious to work on a fee-for-service basis rather than on a contract with the hospital, and a group representing only anaesthetists employed at one city hospital appeared before the Executive Committee. Approval of the principle and agreement to support any group of the profession who desire to work on a fee-for-service basis rather than as salaried employees of an institution was given to this group.

Correspondence From the Canadian Medical Association—The **Secretaries' Conference** will be held in conjunction with the Annual Meeting at Saskatoon during the week of June 13th and the C.M.A. will continue their former financial arrangements with the Divisions. A copy of "**The Master Plan for Hospital and Related Facilities in New York City**" was referred to the Committee on Hospital and Hospital Construction, Federal Health Grants. A communication from the C.M.A. for approving the principle of the general plan of **Blood Transfusion Service** sponsored by the Canadian Red Cross Society, recognized that negotiations must be carried on with the specific local areas or hospitals concerned, therefore must be on a provincial or local basis rather than on the national level. The contents of a letter, outlining the decision of the C.M.A. Executive Committee to inaugurate a **public relations programme** and the earmarking of a sum of \$15,000 for the purpose for the calendar year, was considered timely. The plan visualizes key men appointed by each division to act with the Executive Secretary on the C.M.A. Public Relations Committee. The District Societies have been asked to nominate persons who have time and interest to give to this most important work. In response to several requests from the parent body, the following names were suggested as **representatives to General Council C.M.A.** which meets in Saskatoon: Drs. H. S. Evans, President; A. M. Goodwin, Honorary Secretary; M. T. Macfarland, Executive Secretary; J. R. Martin, R. W. Richardson, P. H. McNulty, A. T. Gowron, V. F. Bachynski, A. Hollenberg, C. H. A. Walton, D. L. Scott. Drs. A. S. Little and W. J. Boyd alternates, if necessary.

Dr. J. Roy Martin, representative to the C.M.A. Executive, gave a comprehensive report of the meeting of that body which was held in Ottawa, February 4th and 5th. Dates were announced as follows, **British Commonwealth Medical Council**, Saskatoon, June 6th, 7th and 8th; **C.M.A. Annual Meeting**, June 13 to 17th inclusive, at Saskatoon; **Manitoba Division, Annual Meeting**, September 19th to 22nd inclusive. Negotiations are being carried out whereby Newfoundland may link up with the Canadian Medical Association as soon as the union with Canada becomes effective. Other matters dealt with at some length were the proposal of the Department of Veterans' Affairs to set up a Pilot Plant at Sunnybrook Hospital, Toronto, for the treatment of D.V.A.-entitled and civilian sufferers from arthritis. A plan of prepaid medical care whereby a veteran or his dependents might be treated in D.V.A. hospitals was also discussed.

In this review, highlights only have been touched, but tend to show the interest which prompts members of the profession to devote a

perfectly good Sunday afternoon on behalf of the profession at large. The Executive Committee must look to the Association for backing on matters where far-reaching decisions have been made necessary by the urgency of the situation.

Crippled Children Grant

Manitoba's share of this grant is \$31,453.00 per annum. This money is not handed over to the Province in a lump sum each year to be spent any way we see fit. Plans must be made how to spend it wisely and so as to benefit the greatest numbers. Projects are then prepared and submitted to the Dominion Government for approval. If approved, the programme can be proceeded with and each month bills are submitted to Ottawa to recover the money already spent.

It is quite obvious that \$31,453.00 per year will not pay for examining, treating and rehabilitating all the crippled children in Manitoba. Planning then must be carefully done so that children will be cared for from families who cannot afford to pay for treatment.

The Dominion Government, for the purposes of the grant, originally defined a crippled child as "a person not over eighteen years of age, who because of disease, accident or inherited defect, is restricted in his normal muscular movement." The age limit has been extended up to twenty-one years. This definition is quite broad but for the present at least does not include such diseases as epilepsy, heart disease and rheumatic fever. It does include squint, harelip and cleft palate and plastic surgery after burns. A portion of the annual grant will be used to establish the crippled children's registry on a permanent basis; bring up to date existing information, which will be used for a more exhaustive survey; procure the services of a nurse trained in crippled children's work; provide expenses for two physicians to visit centres where this work is already organized; provide opportunities for specialist examination in various centres throughout the province, and assist in providing treatment for those in need of such help.

The Minister of Health and Public Welfare, the Honourable Ivan Schultz, requested the Manitoba Medical Association to appoint a Medical Advisory Committee to advise the Department on the implementation of the medical aspects of the programme. The members appointed are Drs. Wallace Grant, George H. Ryan and Duncan C. MacEachern. This committee is keenly interested in the planning and operation of the programme. This committee had its first meeting with representatives of the Department on March 2nd, 1949.

The information already available through the crippled children's registry showed 1,717 children registered. Sufficient data had been obtained

888 to indicate that approximately 320 of these needed examination for the purpose of arriving at a diagnosis and recommendation as to treatment. Preliminary investigation is continuing on the remaining 829 children.

The next step in the programme is to have these children examined and, as they are scattered all over Manitoba, it is a problem. It has been recommended that the best method of getting this done will be by holding organized clinics where the children will be examined by teams made up of pediatricians and orthopedists. A list of the physicians in the respective specialties will be procured through the Executive of the Manitoba Medical Association, and these physicians will then be approached as to their availability to act on one of these examining teams.

Specialist examinations in other fields would be arranged for as indicated. Clinics will be held in hospitals, if at all possible, so that X-ray and laboratory facilities will be available. The greatest number of clinics will be held in Winnipeg but it is planned to hold one day clinics at various centres in the Province starting about May 15th. Clinic team members will be paid an honorarium on a per diem rate agreed upon and will be paid-out-of-pocket expenses when travel is necessary. All certified specialists in these fields will be given an opportunity to take part. It is felt that complete examination of this known group should be proceeded with as quickly as possible in order to indicate what problem there may be in respect to treatment.

One must determine the persons most urgently in need of treatment, those who will receive the greatest benefit and those who can afford to pay for their treatment and those who will require some financial assistance.

The Department of Health and Public Welfare is interested in carrying on a broad general programme regarding crippled children so that no group will be missed nor will any group receive special attention more than its due. A voluntary organization is paying special attention to spastics and examination of those between the ages of three and ten years is now being arranged and will likely commence at the Children's Hospital about March 9th.

The Crippled Children Grant in this province will be used to ascertain the need that is to be met and the best method of meeting it. It is recognized that the condition of many crippled children is such that no remedial treatment is of much value; that there are many cases where the results of treatment are not at all commensurate with the large costs involved as far as practical results are concerned; that the intelligent use of public funds in a matter such as this is to make available the major assistance to those cases where

definite beneficial results can be obtained and where the children can be made useful and self-supporting members of society. The problem is such a large one that it will require the co-operation of all concerned to secure successful results. This means that the Department of Health and Public Welfare, the medical profession and the parents of crippled children will have to co-operate in an effort to meet the needs of the situation. One of the most encouraging features is the interest manifested by the medical profession and the public generally, an interest that finds its basis in the needs of this group and is practical, well-informed and willing to make some sacrifices to meet those needs.

D. H. and P. W.

Brandon and District Medical Society

A meeting of the Brandon and District Medical Society was held in the Nurses' Residence of the Brandon Mental Hospital on Wednesday, March 9th. Dinner was served at 7 o'clock and approximately seventy guests sat down. Following the dinner the President, Dr. E. J. Skafel, welcomed the guests and commented on the gratifying attendance from areas outside the city at this time of year when the weather is uncertain. He introduced the guests: Doctors F. A. B. Sheppard, T. D. Wheeler, J. C. MacMaster and M. T. Macfarland, of Winnipeg. Dr. M. E. Bristow, Assistant Superintendent of the Hospital, extended a welcome to the gathering on behalf of Dr. Schultz, who was unable to be present, and introduced Dr. and Mrs. LeVann, Dr. and Mrs. Winchell and daughter, and mentioned that Dr. and Mrs. Czubaty were unable to attend. Dr. D. R. Bigelow was complimented on his recent marriage, and Dr. J. G. Fyfe moved a vote of thanks to the Superintendent of the Hospital, the Superintendent of Nurses, Miss Wedderburn, the Dietitian, Miss Thompson, and the Hospital Staff. Entertainment was provided for the ladies while the business and scientific session of the Society was in progress. Dr. J. B. Baker was named representative of the Society to the General Practitioners' Association of Manitoba, Doctors F. K. Purdie and J. G. Fyfe were named to the Public Relations Committee of the M.M.A. Dr. F. A. B. Sheppard presented a paper on the subject "Chronic Duodenal Ulcer with Special Reference to the Hormonal Factor of Surgical Treatment" illustrated by charts and X-ray films. Dr. T. D. Wheeler outlined the history of the Manitoba Medical Service and the desired extension beyond Greater Winnipeg. He made several cogent observations on the working of the National Health Service Plan in Great Britain as a result of his recent visit. A splendid discussion followed in which questions were answered by Dr. Wheeler and Dr. MacMaster. Altogether it was a very successful meeting.

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Nicotinamide	18-20 mg.	25 mg.
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*Requirements not established



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Department of Health and Public Welfare

Comparisons Communicable Diseases — Manitoba (Whites and Indians)

DISEASES	1949		1948		Total	
	Jan. 30 to Feb. 26, '49	Jan. 2 to Jan. 29, '49	Jan. 25 to Feb. 21, '48	Dec. 28, '47 to Jan. 24, '48	Jan. 2 to Jan. 29, '49	Dec. 28, '47 to Jan. 24, '48
Anterior Poliomyelitis	0	0	0	0	0	0
Chickenpox	137	160	274	184	297	458
Diphtheria	6	2	1	2	8	3
Diphtheria Carriers	2	1	0	0	3	0
Dysentery—Amoebic	0	0	0	0	0	0
Dysentery—Bacillary	2	0	0	0	2	0
Erysipelas	1	3	1	3	4	4
Encephalitis	0	0	0	0	0	0
Influenza	10	5	3	1	15	4
Measles	711	350	43	15	1061	58
Measles—German	0	5	10	10	5	20
Meningococcal Meningitis	0	1	1	0	1	1
Mumps	152	148	195	110	300	305
Ophthalmia Neonatorum	0	0	0	0	0	0
Pneumonia—Lobar	11	5	12	7	16	19
Puerperal Fever	1	0	0	0	1	0
Scarlet Fever	14	16	8	11	30	19
Septic Sore Throat	14	0	1	0	4	1
Smallpox	0	0	0	0	0	0
Tetanus	0	0	0	0	0	0
Trachoma	0	0	0	0	0	0
Tuberculosis	47	15	118	17	62	135
Typhoid Fever	0	0	1	0	0	1
Typhoid Paratyphoid	0	0	0	0	0	0
Typhoid Carriers	0	0	0	0	0	0
Undulant Fever	2	0	0	0	2	0
Whooping Cough	27	5	38	56	32	94
Gonorrhoea	96	97	115	91	193	206
Syphilis	35	37	48	38	72	86
Diarrhoea and Enteritis, under 1 yr.	8	5	4	6	13	10

Four-Week Period January 30 to February 26, 1949

DEATHS FROM REPORTABLE DISEASES

For Four-Week Period January 26 to February 22, 1949

DISEASES (White Cases Only)	*743,000 Manitoba	906,000 Saskatchewan	3,825,000 Ontario	2,962,000 Minnesota
*Approximate population.				
Anterior Poliomyelitis				18
Chickenpox	137	248	3275	...
Diarrhoea and Enteritis	8	3	...	...
Diphtheria	6	1	5	19
Diphtheria Carrier	2	...	...	...
Erysipelas	1	3	11	...
Dysentery, Amoebic	...	...	...	6
Dysentery, Bacillary	2	...	...	2
Encephalitis	...	...	1	...
Infectious Jaundice	...	...	3	...
Influenza	10	3	150	5
Malaria	...	...	...	5
Measles	711	799	1422	307
Measles, German	36	85	...	...
Mumps	152	162	1245	...
Pneumonia Lobar	11	...	...	...
Puerperal Fever	1	...	...	...
Septic Sore Throat	4	3	18	...
Scarlet Fever	14	26	367	345
Tuberculosis	47	45	105	64
Typh. Para-Typhoid	...	1	5	...
Undulant Fever	2	...	11	23
Whooping Cough	27	51	108	5
Gonorrhoea	96	...	118	...
Syphilis	35	...	79	...

Urban—Cancer, 53; Influenza, 1; Pneumonia Lobar (108, 107, 109), 4; Pneumonia (other forms), 5; Syphilis, 3; Tuberculosis, 6; Diarrhoea and Enteritis (under 1 year), 4; Hodgkin's Disease, 3. Other deaths under 1 year, 16. Other deaths over 1 year, 197. Stillbirths, 16. Total, 229.

Rural—Cancer, 34; Influenza, 1; Measles, 1; Pneumonia Lobar (108, 107, 109), 4; Pneumonia (other forms), 8; Syphilis, 1; Tuberculosis, 4; Whooping Cough, 1; Diarrhoea and Enteritis (under 1 year), 3. Other deaths under 1 year, 11. Other deaths over 1 year, 139. Stillbirths, 14. Total, 164.

Indians — Pneumonia (other forms), 1; Tuberculosis, 1. Other deaths under 1 year, 2. Other deaths over 1 year, 1. Stillbirths, nil. Total, 3.

Measles, Mumps and Chickenpox are quite prevalent but no more so than is to be expected with these very communicable diseases which occur in cycles.

Diphtheria, with six cases reported, four of whom were in Winnipeg, is too many. This is a preventable disease.

Influenza—Although only ten cases were officially reported, we are informed that this disease has been epidemic in some parts of the Province. We realize that filling out dozens of cards is a nuisance when one is busy and tired but if you have any pertinent information write a short letter.

Venereal Diseases show no appreciable change in numbers.

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COLLEGE OF PHYSICIANS AND SURGEONS OF MANITOBA

M. T. Macfarland, M.D., Registrar

(Continued from March, 1949, Issue)

(6) **Motion:** "THAT the salary of the Treasurer be Five Hundred Dollars (\$500.00) per year." Carried.

(7) The following motion from the minutes of the meeting of the Finance Committee on September 27, 1948, was confirmed by Council:

"THAT in the event of the Registrar or one member of the Finance Committee being unable to be present, that Miss Jean Allison be empowered to attend the safety deposit box with the Treasurer, and that this motion be made retroactive to June 1, 1948." Carried.

(8) **Motion:** "THAT the janitor be paid Five Dollars (\$5.00) for his services." Carried.

Reports of Standing Committees and Their Consideration

A. Executive Committee

The Chairman, Dr. B. D. Best, reported that there had been no meeting of the Executive Committee held since the May Council Meeting.

B. Registration Committee

The Chairman, Dr. B. D. Best, reported that there had been eleven meetings of the Registration Committee during the year, and that members of Council had received the minutes.

He stated that the major problem of the Registration Committee was the number of foreign applications. He said that all other provinces are having the same problem. If they are issued with an enabling certificate, and pass the examinations of the Medical Council of Canada, they would be eligible to practice elsewhere. He thought that before an enabling certificate could be issued, each doctor would have to have the medical education equivalent to that of the University of Manitoba.

Motion: "THAT the report of the Registration Committee be adopted." Carried.

C. Education Committee

Dr. A. A. Alford, Chairman, presented the minutes of the meeting of the Education Committee held October 18th, 1948.

Motion: "THAT the report of the Education Committee be adopted." Carried.

D. Finance Committee

The Chairman, Dr. T. H. Williams, announced that there had been two meetings of the Finance Committee during the year. The one held on May 19th, was confirmed by Council the same day, and the one held September 27th, had been discussed at this meeting during Business Arising from Treasurer's and Auditors' Reports.

Motion: "THAT the report of the Finance Committee be adopted." Carried.

E. Legislative Committee

The Chairman, Dr. J. S. Poole, reported that there had been no meeting of the Legislative Committee held during the year.

F. Library Committee

The Statistics of the Library for the past year are attached.

The Library Committee had under consideration the purchase of extra copies of certain books which will be sent out as package libraries to central rural towns thereby increasing usefulness of the Library to the doctors in rural areas.

Statistics 1947-1948

Contents of Library:

Books, Bound and Unbound Serials (Periodicals): The approximate number of volumes in the library, not counting the duplicate files of serials: 1947-48, 16,093 vols.; 1946-47, 15,473 vols.; Progress, 620 vols. Increase of 41% over the 1946-47 accessions.

Serials (Periodicals) Titles currently received: 1947-48, Titles 312, Duplicates 5, Total 317. 1946-47, Titles 278, Duplicates 5, Total 283. Progress, Increase of 34 titles.

Volumes added to Library by the College of Physicians and Surgeons grant 119 volumes.

This is an increase of 96 volumes, or 41.73% over 1946-47. Many of these books were ordered during 1946, but owing to prevailing business conditions they were delayed in delivery.

Circulation Statistics

Borrowers: Physicians, City and Medical Faculty (Winnipeg and Suburbs).

Session 1947-48, Number of Registered Physicians 505; Individual Borrowers 259; Percentage of No. Reg. 51.08%; Increase Individual Borrowers 5; Total items Loaned: Books and Journals, 4,519 or 41.68% of all loans. A decrease of 601 items or 11.54% from 1946-47.

Borrowers: Physicians, Rural (Manitoba).

Session 1947-48, Number of Registered Physicians 225; Individual Borrowers 25; Percentage of No. Reg. 11.11%; Increase Individual Borrowers, None; Total Items Loaned: Books and Journals, 209 or an increase of 24 items, or 12.97% over 1946-47.

Registered Physicians, Winnipeg, 505; Faculty among above borrowing, 74 or 14.65%; Non-faculty among above borrowing, 185 or 36.63%.

Respectfully submitted,

Bruce Chown.

Motion: "THAT the report of the Library Committee be adopted." Carried.

Re Grant to Medical Library Committee

A letter was presented from the Chairman, Medical Library Committee, requesting the usual grant.

Motion: "THAT the College of Physicians and Surgeons of Manitoba grant to the Medical Library Committee, the sum of Seven Hundred and Fifty Dollars (\$750.00) for the year 1948-49." Carried.

G. Discipline Committee

Dr. A. A. Alford, Chairman, presented the minutes of the meeting of the Discipline Committee held October 18th, 1948.

Motion: "THAT the report of the Discipline Committee be adopted." Carried.

Motion: "THAT the Discipline Committee be a committee to study changes in our disciplinary proceedings and report to the Council in May." Carried.

The Council considered that it would be necessary to make inquiries, and establish whether Dr. _____ has been guilty of misdemeanor or incompetence. It was also noted that Dr. _____ was in arrears two years in his annual fees.

Motion: "THAT the matter be laid over until the special meeting of the Council in May, and a report be brought in again by the Discipline Committee." Carried.

H. Taxing Committee

No meeting of the Taxing Committee was held during the year. (Refer Registrar's Report).

Reports of Special Committees and Their Consideration**A. Representatives to the Manitoba Medical Association Executive**

Dr. C. B. Stewart reported that he and Dr. Edward Johnson had sat in at most of the Executive Meetings of the Manitoba Medical Association this year. He said that our association with the Manitoba Medical Association is very satisfactory, the present arrangements are working out very well indeed, and that the Liaison Committee is a definite step in the right direction.

Motion: "THAT the report of the representatives to the Manitoba Medical Association Executive be adopted." Carried.

Re Grant for Extra Mural Post Graduate Work

A communication was presented from the Executive Secretary of the Manitoba Medical Association, requesting the usual grant for the purpose of extra mural post graduate work.

Motion: "THAT the College of Physicians and Surgeons of Manitoba grant a sum up to Three Hundred Dollars (\$300.00) to the Manitoba Medical Association for extra mural post graduate work." Carried.

B. Trustees of the Gordon Bell Memorial Fund

Letters of resignation as Trustees of the Gordon Bell Memorial Fund were presented from Dr. W. G. Campbell and Dr. Wm. Turnbull, leaving Dr. J. S. McInnes as the remaining Trustee.

Motion: "THAT the resignation of Dr. W. G. Campbell and Dr. Wm. Turnbull as Trustees of the Gordon Bell Memorial Fund be accepted." Carried.

Motion: "THAT Dr. J. M. Lederman be appointed a Trustee of the Gordon Bell Memorial Fund." Carried.

Motion: "THAT Dr. Lennox G. Bell be appointed a Trustee of the Gordon Bell Memorial Fund." Carried.

C. Representatives to the Committee of Fifteen

No meeting of the Committee of Fifteen has been held since the May Council meeting.

D. Representative to the Committee on Admissions

The method of selection this past year was essentially the same as the year before. A so-called aptitude test was given to all applicants, the test being conducted by a central American authority and the test used being that commonly used by the Association of American Medical Colleges. Each applicant was required to pay a fee of \$5.00 to the examining body. In practice the results of the aptitude test were not made use of and selection was again entirely on the basis of marks.

It had been the intention of the Committee on Selection to take 50% of the class from among the veterans but this it was unable to do. Even giving the veterans a 10% differential we were only able to select 1/3 of the class from among the veterans. It is probable that next year there will be practically no veterans in the incoming class.

Respectfully submitted,

Bruce Chow

Motion: "THAT the report of the representative to the Committee on Admissions be adopted." Carried.

E. Representatives to the Medical Council of Canada

Dr. J. S. Poole and Dr. B. D. Best, your representatives to the Medical Council of Canada attended the 36th Annual Meeting held in Ottawa September 15, 1948.

Council met at 10 a.m. in Salon D of the Chateau Laurier, and yours truly was officially and duly seated as a bona fide member of Council, but without some discussion regarding the production of credentials. The matter was soon and happily settled, much to the amusement of your three provincial members. Reports of Executive and Financial Committees and of the Registrar were read and discussed. It is of interest to note that over 10,000 doctors are now registered with the Canadian Council.

(Continued in Next Issue)

MEDICAL LIBRARY

The University of Manitoba, Faculty of Medicine

Recent Accessions

From October, 1937, to October, 1948

(Continued from March, 1949, Issue)

General List

French, Herbert. Index of differential diagnosis of main symptoms; 6th ed. Wright, 1945. 1128 p.

Gesell, Arnold. The child from five to ten. Harper, 1946. 475 p.

Gesell, A. L. Developmental diagnosis; normal and abnormal child development, clinical methods and pediatric applications; 2d ed. Hoeber, 1947. 496 p.

Gesell, A. L. The embryology of behavior; the beginning of the human mind; 2d ed. Harper, c1945. 289 p.

Gesell, A. L. The first five years of life; a guide to the study of the pre-school child. Harper, 1940. 58 p.

Goldberg, Benjamin. Clinical tuberculosis; 5th ed. Davis, 1946. 2 v.

Goldberger, Emanuel. Unipolar lead electrocardiography including standard leads, unipolar extremity leads and multiple unipolar precordial leads. Lea and Febiger, 1947. 182 p.

Grant, J. C. B. Atlas of anatomy; 2d ed. Williams and Wilkins, 1947. 496 p.

Gray, K. G. Law and the practice of medicine. Ryerson, 1947. 68 p.

Hadfield, Geoffrey. Recent advances in pathology; 5th ed. Churchill, 1947. 363 p.

Haig, K. M. Brave harvest; the life and story of E. Cora Hind. Allen, 1945. 275 p.

Harries, E. H. R. Clinical practice in infectious diseases for students, practitioners and medical officers; 3d ed. Livingstone, 1947. 679 p.

Harris, D. T. Experimental physiology for medical students; 4th ed. Churchill, 1947. 299 p.

Harrison, G. A. Chemical methods in clinical medicine; 3d ed. Churchill, 1947. 630 p.

Hathaway, W. (Phillips) Education and health of the partially seeing child; rev. ed. Published for the National Society for the prevention of blindness, by Columbia University Press, 1947. 216 p.

Harvard University. Fatigue laboratory. Laboratory manual of field methods for biochemical assessment of metabolic and nutritional condition. The Laboratory, 1945. 132 p.

Hill, J. M. The Rh factor in the clinic and the laboratory. (Blood; the Journal of Hematology. Special issue No. 2).

Grune and Stratton, 1948. 192 p.

Himsworth, H. P. Lectures on the liver and its diseases (comprising the Lowell lectures delivered at Boston, March, 1947).

Blackwell Scientific Publications, 1947. 204 p.

Holzer, Wolfgang. RKG Rheocardiography; a method of circulation's investigation and diagnosis in circular motion.

Maudrich, 1946. 43 p.

Howell, W. H. Textbook of physiology; 15th ed. Saunders, 1947. 1304 p.

Jackson, J. H. Selected writings. Hodder and Stoughton, 1931-32. 2 v.

Jamieson, E. B. Illustrations of regional anatomy; 7th ed. Livingstone, 1947. 320 p.

Jeans, P. C. Infant nutrition; 4th ed. Mosby, 1947. 516 p.

Jones, F. W. Principles of anatomy as seen in the hand; 2d ed. Bailliere, 1941. 417 p.

Jorpes, J. E. Heparin in the treatment of thrombosis; an account of its chemistry, physiology and application in medicine; 2d ed. Oxford University Press, 1946. 260 p.

Kessler, H. H. Cineplasty. Thomas, c1947. 201 p.

Kinsey, A. C. Sexual behavior in the human male. Saunders, 1948. 804 p.

Kolmer, J. A. Penicillin therapy; 2d ed. Appleton-Century, 1947. 339 p.

Ladd, W. E. Abdominal surgery of infancy and childhood. Saunders, c1941. 455 p.

Lee, D. H. K. The physiology of tissues and organs; an introduction to the study of systematic physiology. University of Queensland, 1946. 159 p.

Lennox, W. G. Science and seizures; new light on epilepsy and migraine; 2d ed. Harper, c1946. 258 p.

Levine, Samuel A. Clinical heart disease; 3d ed. Saunders, c1945. 462 p.

Low, R. C. Atlas of bacteriology. Livingstone, 1947. 168 plates.

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